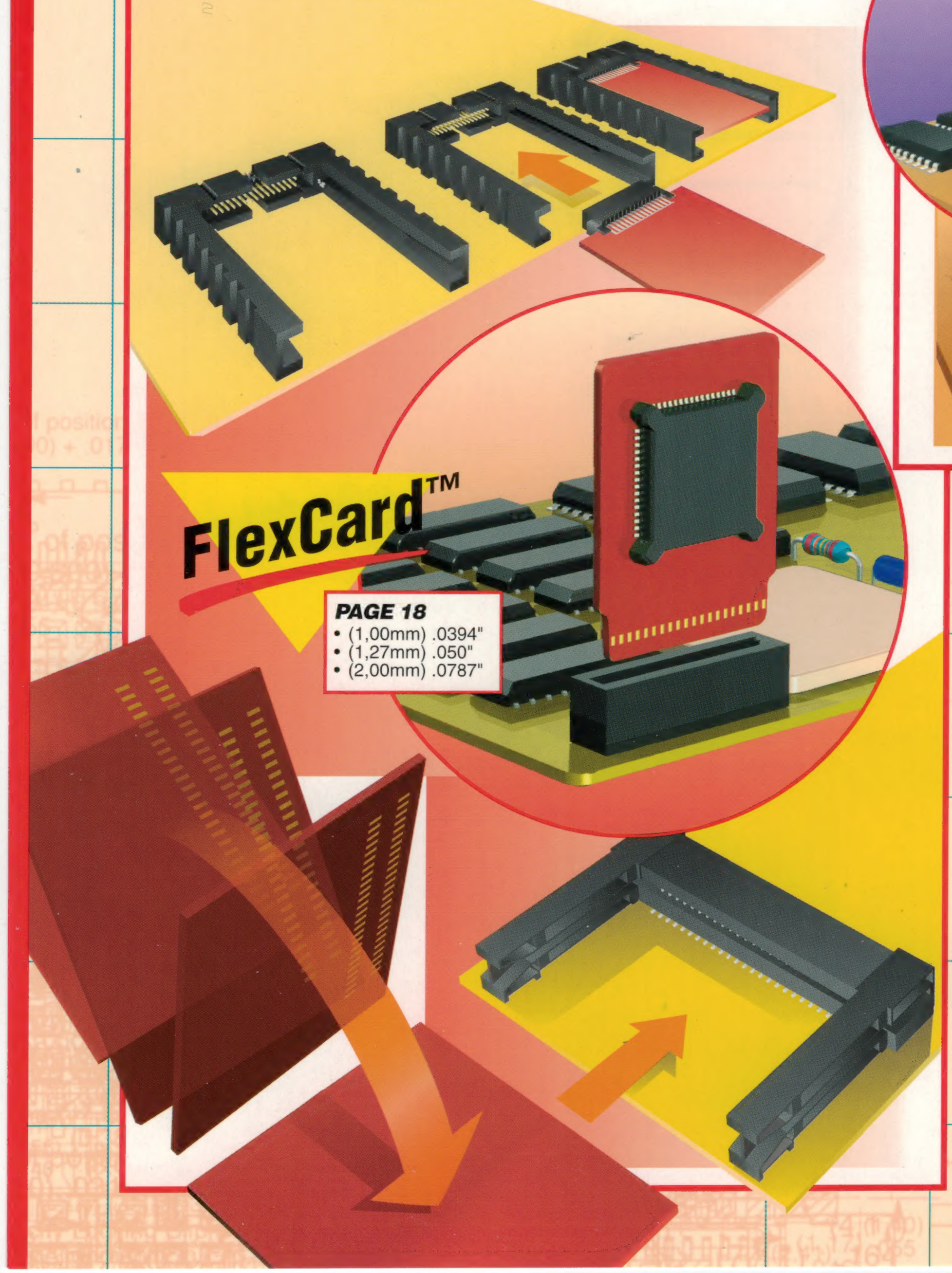
samtec

BOARD INTERFACE SYSTEMS

- Micro and Standard Board Interfaces
- Flex Design Solutions
- Application Specific Interfaces

CARD-TO-BOARD

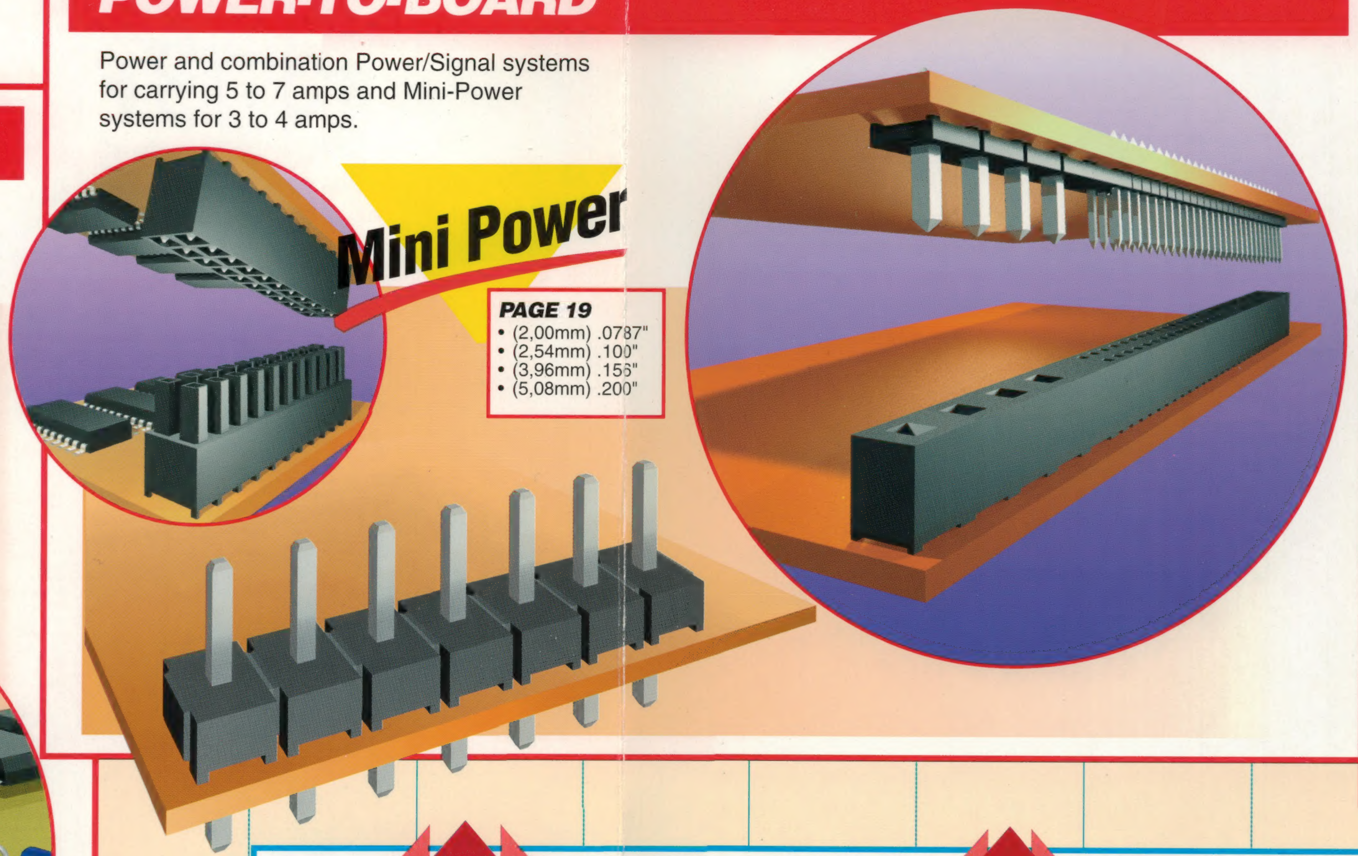
Unique interface systems for socketing of pluggable modules, micro circuit cards, and other on-board integrated systems.



PAGE 18
- (1,00mm) .0394"
- (1,27mm) .050"
- (2,00mm) .0787"

POWER-TO-BOARD

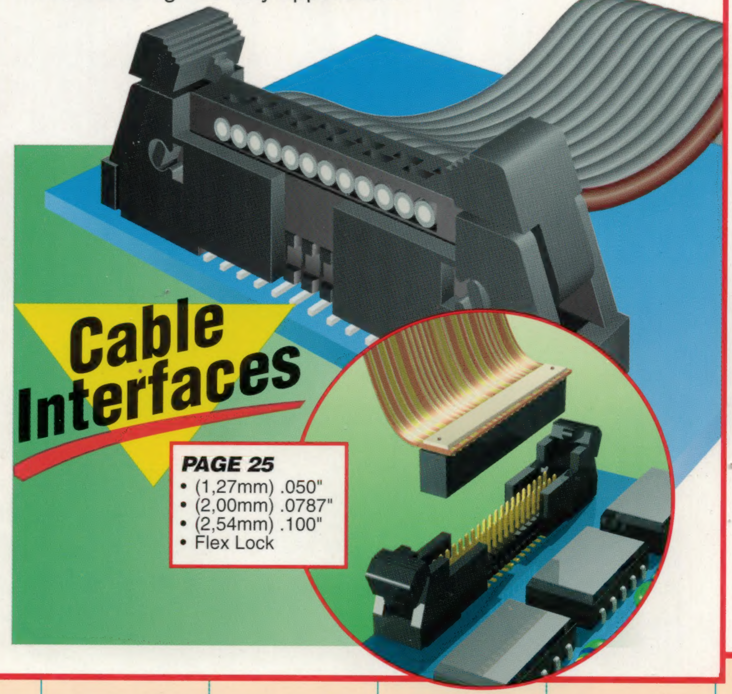
Power and combination Power/Signal systems for carrying 5 to 7 amps and Mini-Power systems for 3 to 4 amps.



PAGE 19
- (2,00mm) .0787"
- (2,54mm) .100"
- (3,96mm) .156"
- (5,08mm) .200"

CABLE-TO-BOARD

IDC and flex systems for off-board interfaces in micro and high density applications.



PAGE 25
- (1,27mm) .050"
- (2,00mm) .0787"
- (2,54mm) .100"
- Flex Lock

FLEX DESIGN

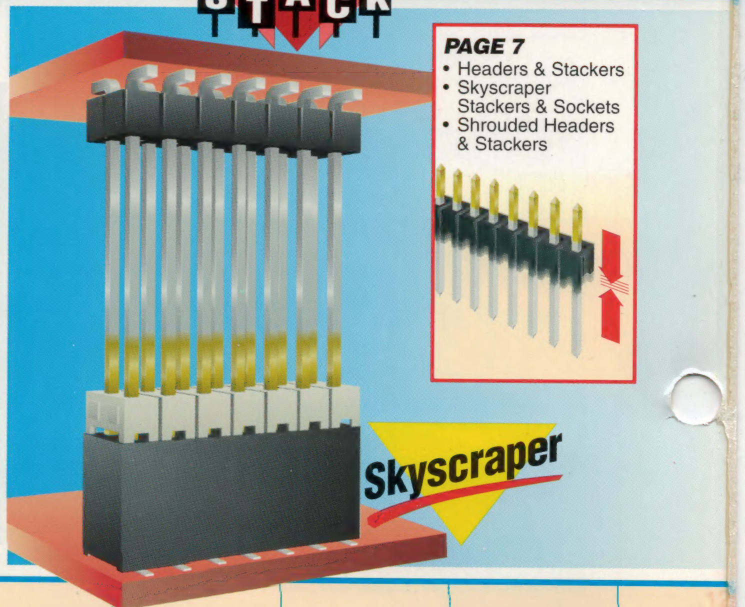
Flexible design solutions from sockets and contacts to moldings and shrouds along with application specific and processing solutions.

FLEX CONTACT

PAGE 6
- High Reliability
- Pass-Through
- Low Profile
- Cost Effective

FLEX STACK

PAGE 7
- Headers & Stackers
- Skyscraper Stackers & Sockets
- Shrouded Headers & Stackers

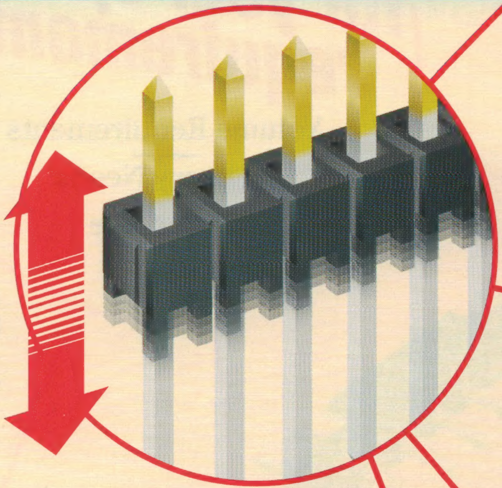


FLEX STACK

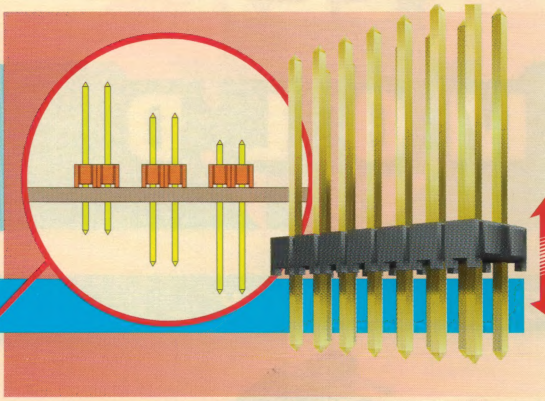
TERMINAL FLEXIBILITY

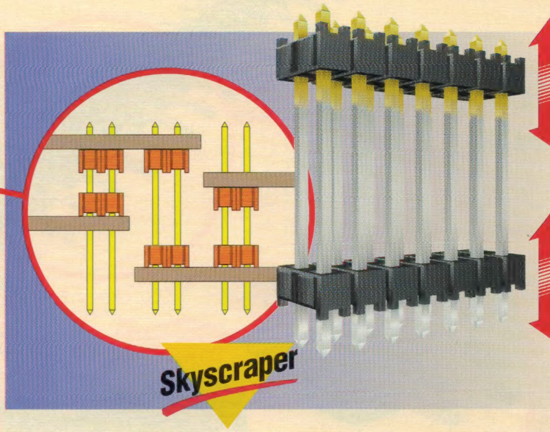
Flexible Headers and Stackers

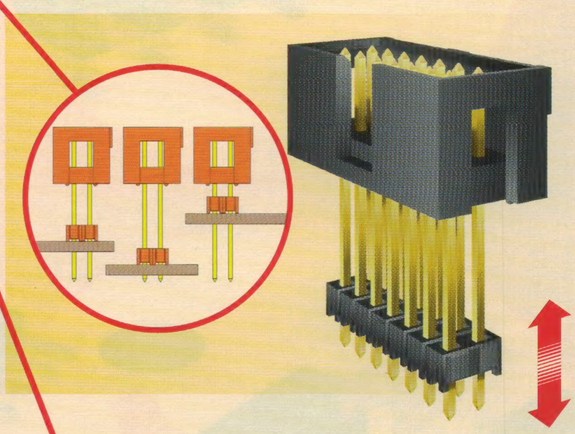
- Any pin length
- Any board spacing
- Any plating
- Choice of 26 terminals
- Choice of five pitches

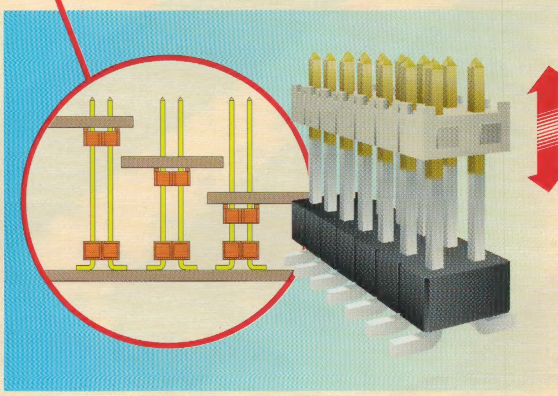


SPECIFY BODY POSITION IN (0,13mm) .005" INCREMENTS



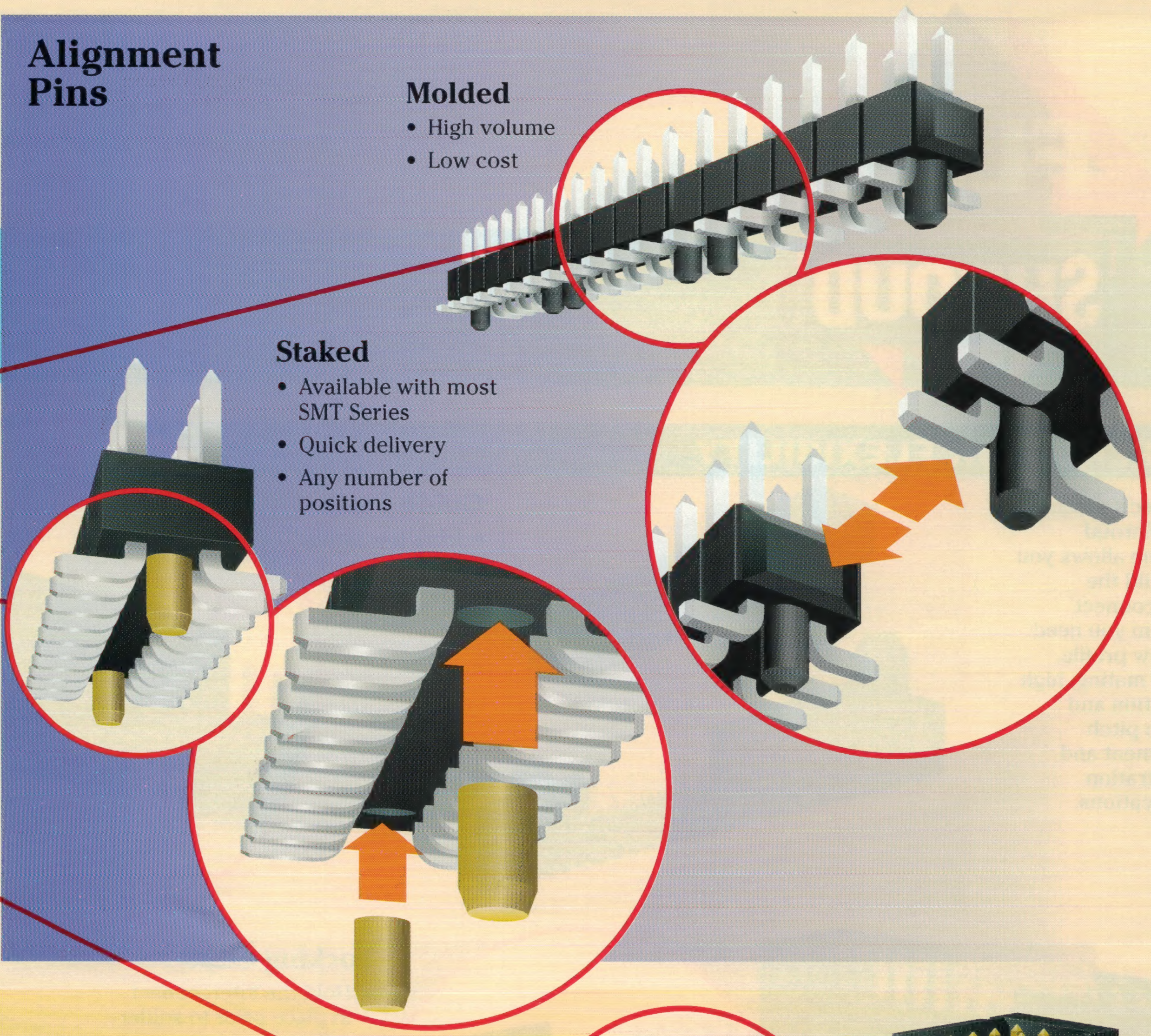






Application	Technology	Pitch	Series	Post Range
Header	Through-Hole	(2,54mm) .100"	MTSW	(0,00) .000 to (33,02) 1.300
		(2,00mm) .0787"	MTMM	(0,00) .000 to (19,56) .770
		(1,27mm x 2,54mm) .050" x .100"	MTMS	(0,00) .000 to (15,37) .605
Stacker		(2,54mm) .100"	ZW	(5,08) .200 to (34,93) 1.375
		(2,00mm) .0787"	TW	(3,05) .120 to (26,92) 1.060
		(1,27mm x 2,54mm) .050" x .100"	DWM	(5,08) .200 to (23,62) .930
		(1,27mm) .050"	FW	(1,78) .070 to (17,78) .700
Shrouded Stacker		(2,54mm) .100"	ZSS	(11,43 .450 to (34,04) 1.340
		(2,00mm) .0787"	ZLTMM	(5,92) .233 to (18,80) .740
		(1,27mm x 2,54mm) .050" x .100"	ZML	(12,83) .505 to (19,69) .775
Stacker	Surface Mount	(2,54mm) .100"	HW	(6,35) .250 to (27,05) 1.065
		(2,00mm) .0787"	TW	(5,33) .210 to (17,35) .683
		(1,27mm x 2,54mm) .050" x .100"	HDWM	(6,35) .250 to (15,62) .615
		(1,27mm) .050"	FW	(2,16) .085 to (15,75) .620
		(1,00mm) .0394"	MW	(2,41) .095 to (5,97) .235
		(0,80mm) .0315"	AW	(3,09) .122 to (5,84) .230
Shrouded Stacker		(2,00mm) .0787"	STMM	(4,57) .180 to (17,35) .683
		(1,27mm x 2,54mm) .050" x .100"	ZML	(13,46) .530 to (20,19) .795
		(1,27mm) .050"	FW	(5,08) .200 to (15,75) .620
		(1,00mm) .0394"	MW	(3,30) .130 to (5,97) .235
		(0,80mm) .0315"	AW	(3,09) .122 to (5,84) .230

Alignment Pins

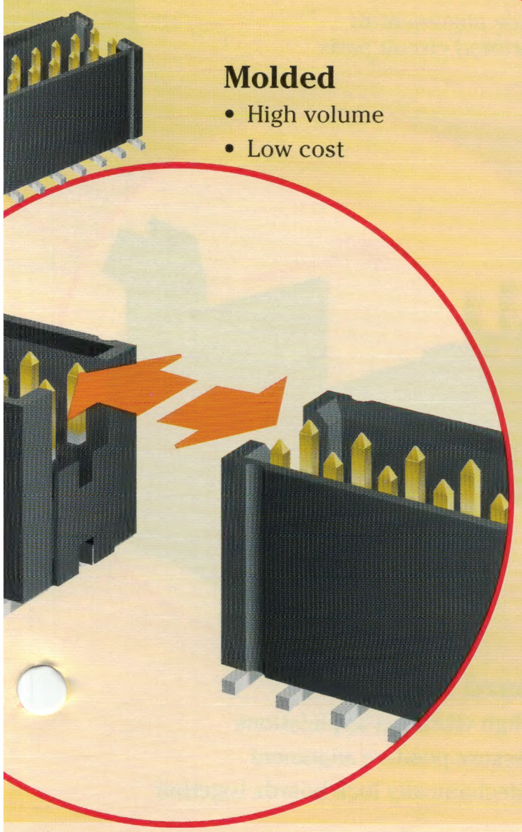


Molded

- High volume
- Low cost

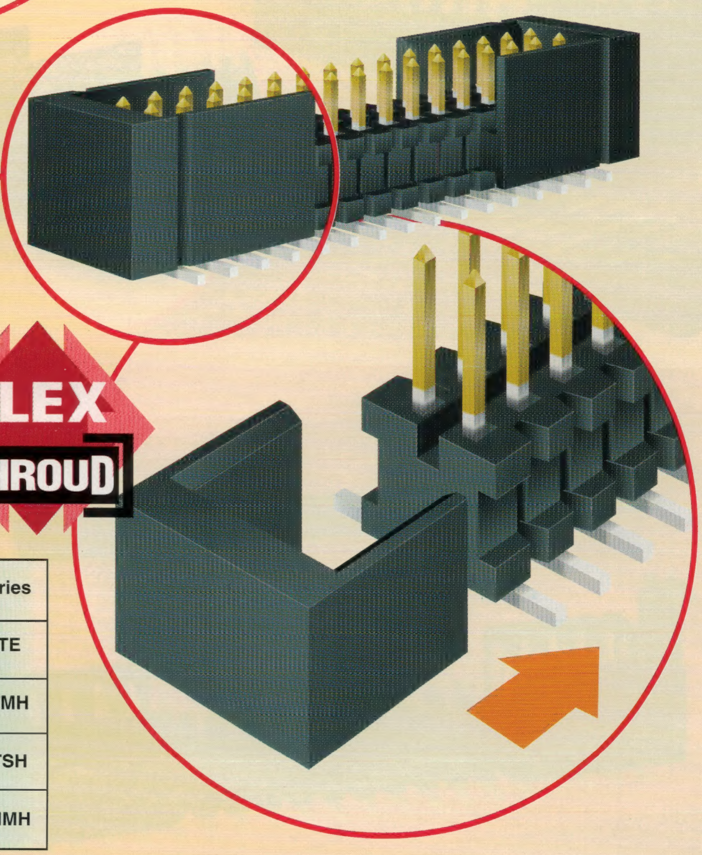
Staked

- Available with most SMT Series
- Quick delivery
- Any number of positions



Molded

- High volume
- Low cost



Flex

- Any pin count
- Quick delivery

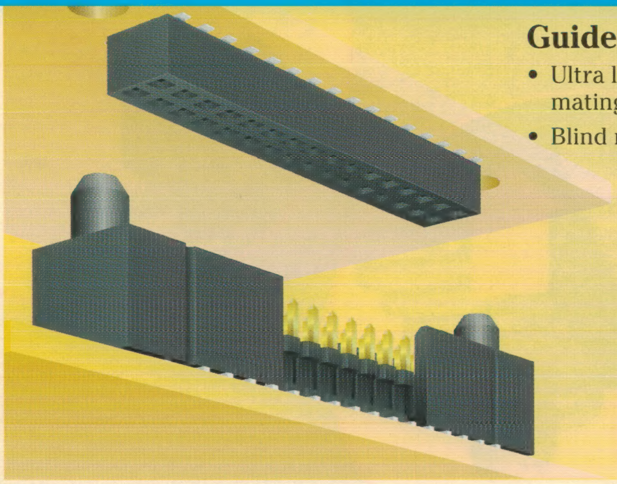
FLEX SHROUD

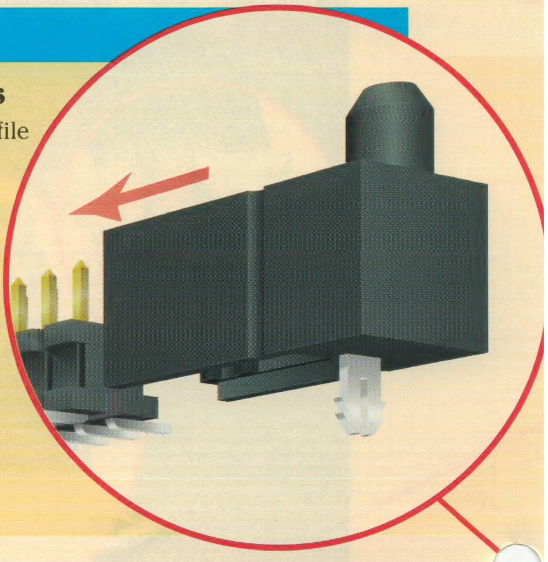
Flex Shroud Availability	Series
(0,80mm) .0315"	FTE
(1,00mm) .0394"	FTMH
(1,27mm) .050"	FTSH
(2,00mm) .079"	TMMH

FLEX SHROUD

APPLICATION FLEXIBILITY

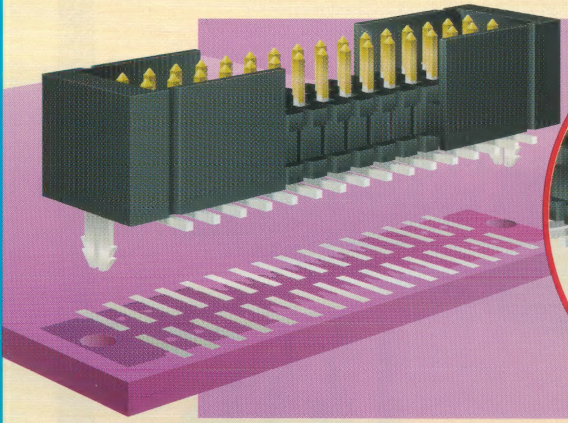
Samtec's patented Flex Shroud System allows you to build the interconnect system you need for low profile, blind mating, high vibration and micro pitch alignment and registration applications.

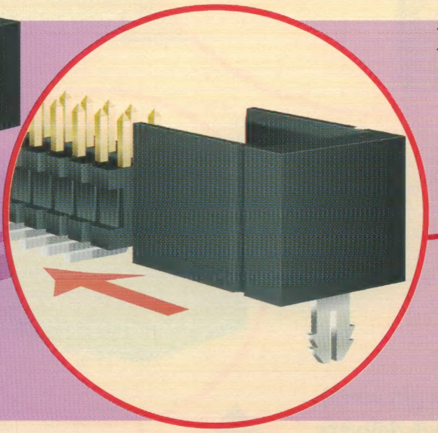


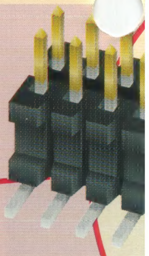


Guide Posts

- Ultra low profile mating
- Blind mating

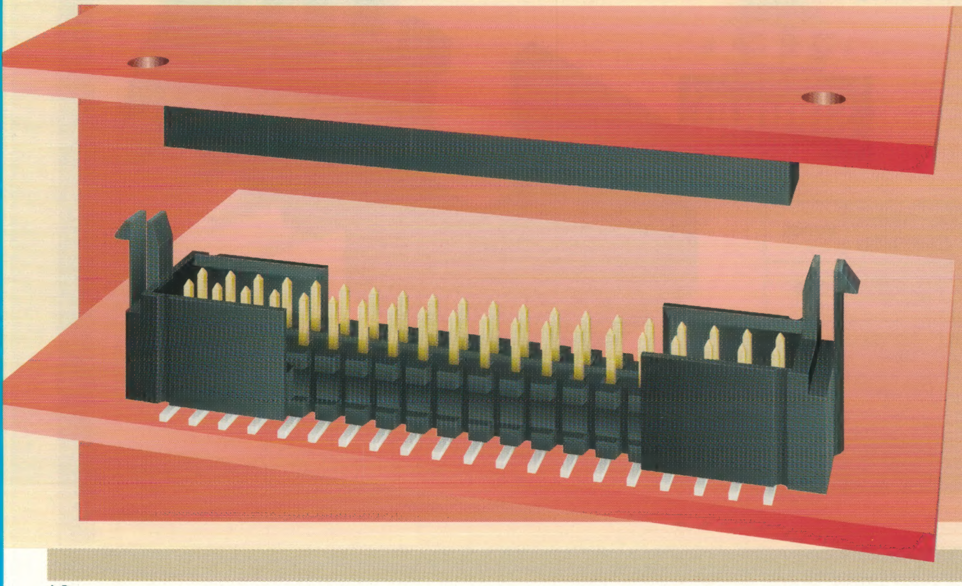


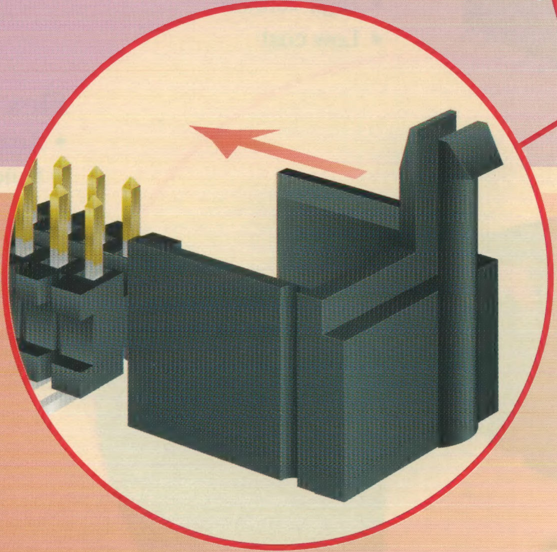




Locking Clips

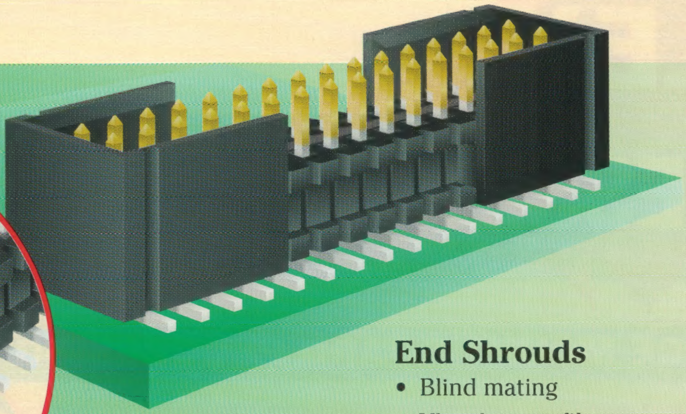
- Hold the interconnect in place prior to solder reflow
- Provide alignment to the printed circuit pads

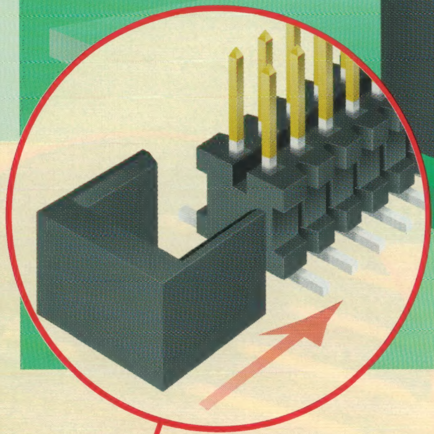




Board Locks

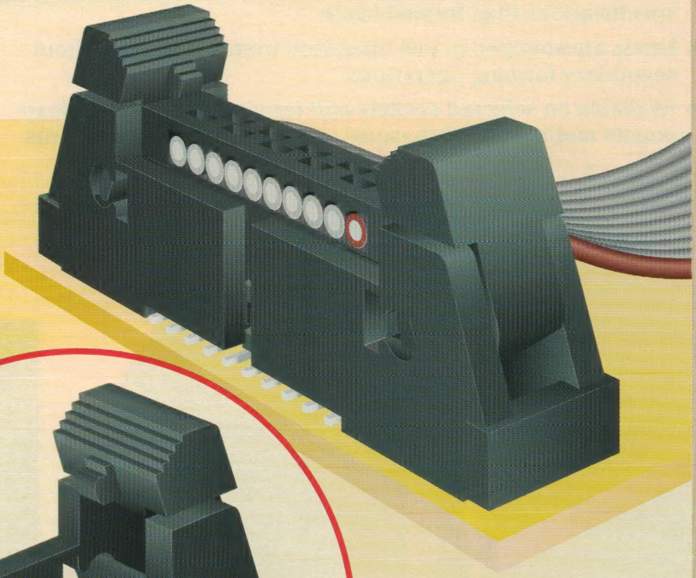
- High vibration applications
- Assure positive alignment
- Mechanically lock boards together

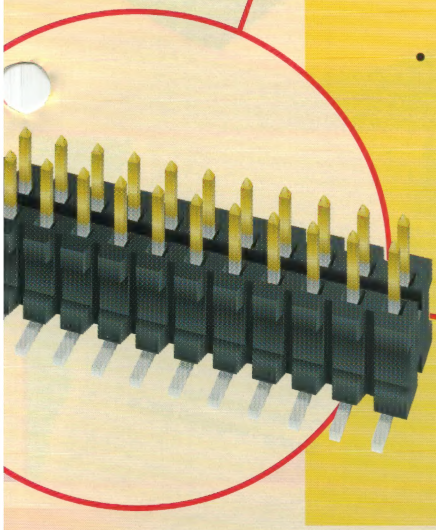




End Shrouds

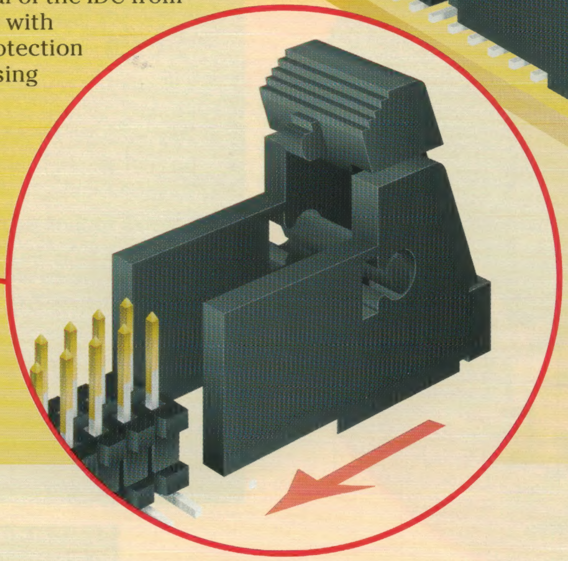
- Blind mating
- Ultra low profile mating





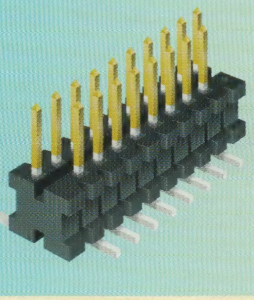
Ejector Latches

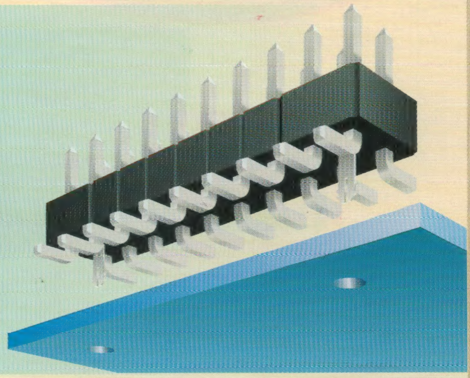
- Assuring retention of micro IDC in high vibration applications
- Allow removal of the IDC from the assembly with maximum protection against stressing the cable assembly



Other Stuff

- Positive polarization
- Staked metal Alignment Pins or Locking Clips



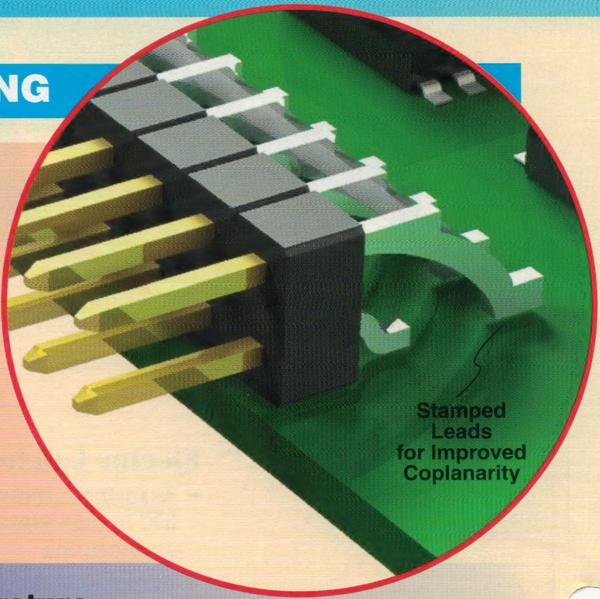


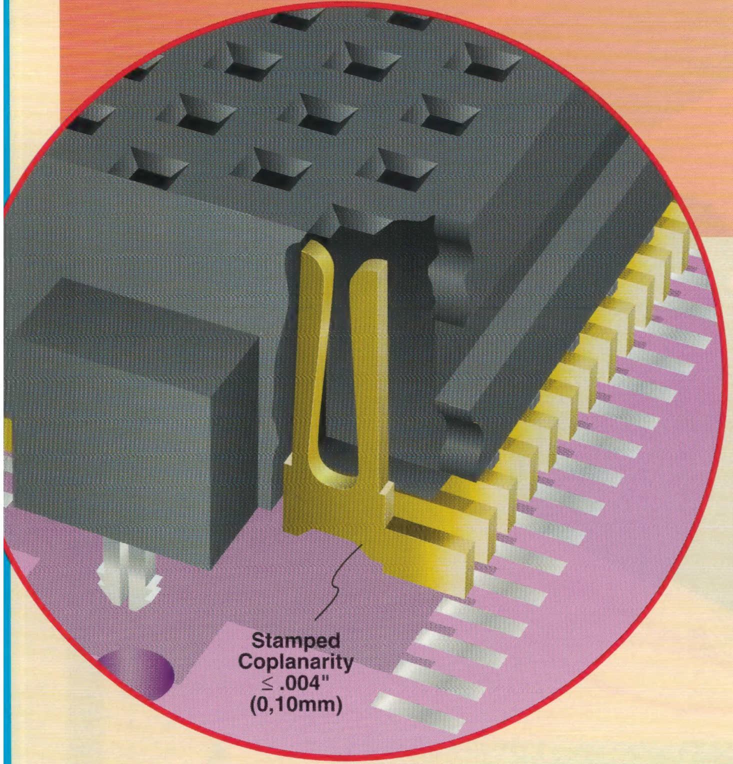
FLEX PROCESSING

100% SURFACE MOUNT BOARD PROCESSING

Optimum Lead Coplanarity

- Stamped leads can offer significantly better coplanarity specifications than formed leads
- Leads are stamped in one operation from flat stock without secondary forming operations
- Available on selected sockets and terminals where high lead counts and/or fine pitch cause special coplanarity concerns





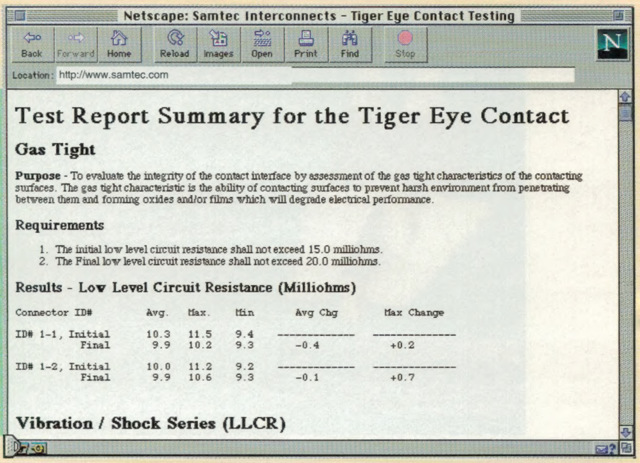
High Temperature Plastics

- All Samtec micro and surface mount interconnects have Liquid Crystal Polymer insulators or other high temperature plastic
- Allows higher processing temperatures (up to 230°C) often required in infra-red board processing
- Many through-hole interconnects are available with high temperature plastics for mixed technology boards

Sudden Specs on the Net

SUDDEN SPECS!
www.samtec.com

- Detailed materials and processing specifications available on the World Wide Web
- Summaries of test results on our most popular interconnects
- Available at www.samtec.com or request CD ROM version


Netscape: Samtec Interconnects - Tiger Eye Contact Testing

Location: http://www.samtec.com

Test Report Summary for the Tiger Eye Contact

Gas Tight

Purpose - To evaluate the integrity of the contact interface by assessment of the gas tight characteristics of the contacting surfaces. The gas tight characteristic is the ability of contacting surfaces to prevent harsh environment from penetrating between them and forming oxides and/or films which will degrade electrical performance.

Requirements

1. The initial low level circuit resistance shall not exceed 15.0 milliohms.
2. The Final low level circuit resistance shall not exceed 20.0 milliohms.

Results - Low Level Circuit Resistance (Milliohms)

Connector ID#	Avg.	Max.	Min	Avg Chg	Max Change
ID# 1-1, Initial	10.3	11.5	9.4	-------------	-------------
Final	9.9	10.2	9.3	-0.4	+0.2
ID# 1-2, Initial	10.0	11.2	9.2	-------------	-------------
Final	9.9	10.6	9.3	-0.1	+0.7

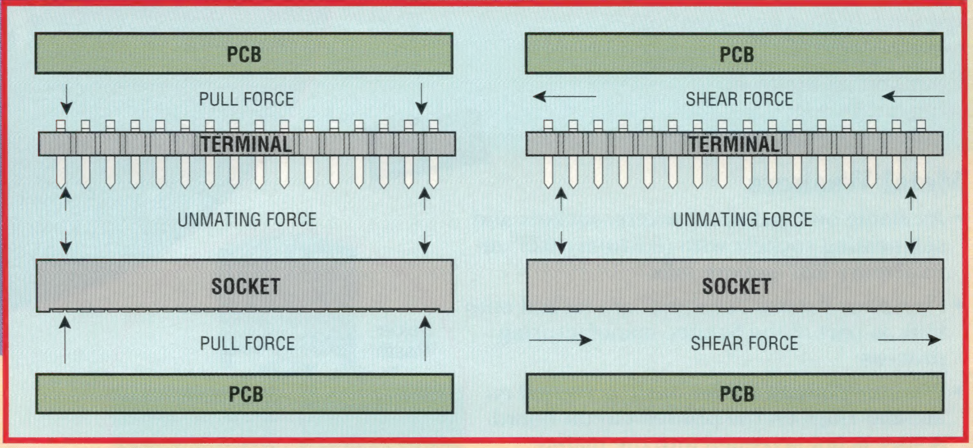
Vibration / Shock Series (LLCR)

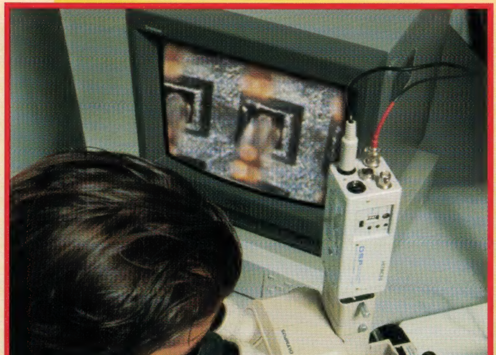
samtec

Pitch	Terminal Socket	Pull Force Average	Pull Force Minimum	Shear Force Average	Shear Force Minimum	Calculated Unmating Force Average
		Test Results				
(2,54mm) .100"	TSM-125 CLH-125	(1184) 266 (169) 38	(886) 199 (98) 22	(1442) 324 (307) 69	(1179) 265 (231) 52	(13) 3
(2,00mm) .0787"	TMM-125 CLT-125	(498) 112 (53) 12	(347) 78 (49) 11	(1126) 253 (263) 59	(1050) 236 (147) 33	(9) 2
(1,27mm) .050"	FTS-125 CLP-125	(267) 60 (80) 18	(111) 25 (49) 11	(1064) 239 (218) 49	(730) 164 (129) 29	(27) 6
(1,27mm) .050"	TFM-125 SFM-125	(249) 56 (218) 49	(205) 46 (182) 41	n/a n/a	n/a n/a	(58) 13 (22) 5 (LIF)
(1,00mm) .0394"	FTM-125 CLM-125	(125) 28 (71) 16	(71) 16 (53) 12	(708) 159 (182) 41	(610) 137 (129) 29	(9) 2
(1,00mm) .0394"	BKT-125 BKS-125	(107) 24 (38) 8	(49) 11 (27) 6	(449) 101 (352) 79	(392) 88 (276) 62	(9) 2
		Data given in (Newtons) Pounds				

SMT Lead Strength Testing

- Test results verify that the pull force of Samtec connectors off the board is higher than the withdrawal force of mated connectors
- For Samtec connectors the force required to pull the connector off the board is typically three to six times the force required to separate a mated connector pair





Interconnect Processing Group

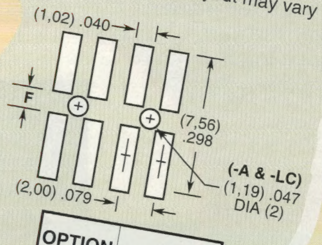
- Free micro/SMT board processing consulting service from Samtec
- Help lower total applied cost of boards
- Help improve overall processing and manufacturability of boards
- Help resolve complex interconnect processing issues or concerns

Suggested Processing Guidelines

- Catalog pages clearly show processing specifications for surface mount interconnects
- Maximum processing temperatures and lead coplanarity specifications are included
- Suggested PCB layouts including alignment pin locations are shown

Processing:

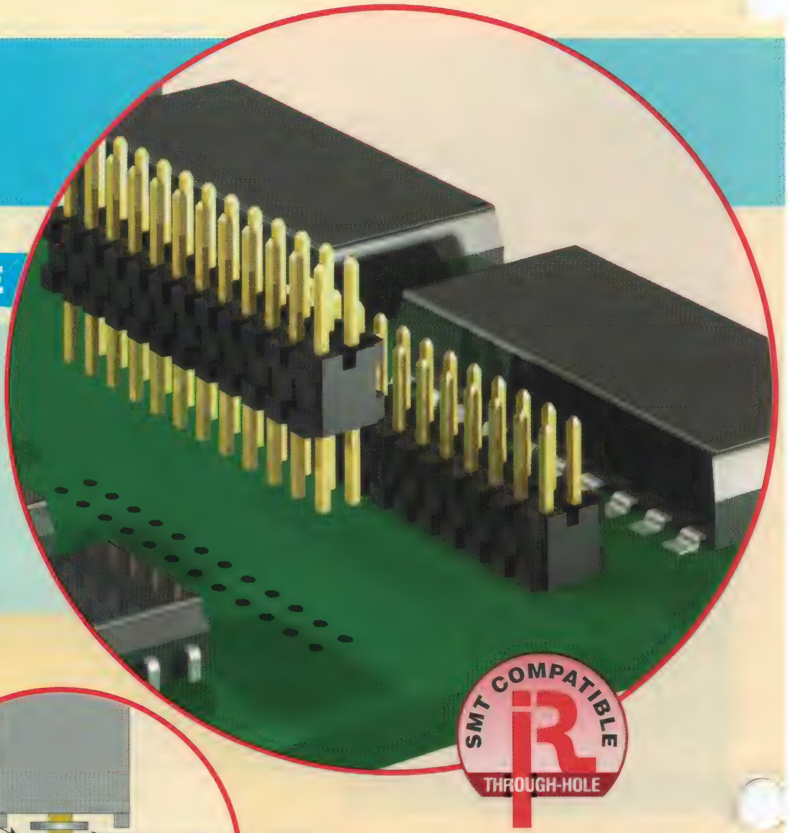
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
.004" (0,10mm) max
Suggested PCB Layouts
Your specific layout may vary



OPTION	F
NONE	(0,97) .038
–A	(1,14) .045
–LC	(1,14) .045

FLEX PROCESSING

SMT COMPATIBLE THROUGH-HOLE



Robust, Low Cost Interfaces

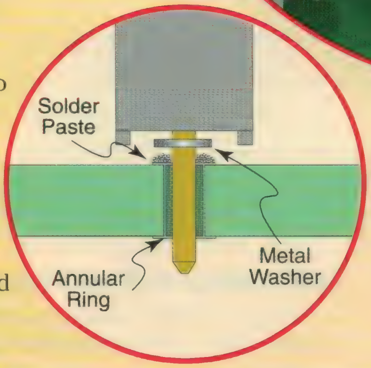
- Through-hole interconnects provide robust interfaces on surface mount boards
- Secondary reflow operations are not necessary with high temperature IR compatible interconnects

Three common methods of processing are in use:

PATENT PENDING

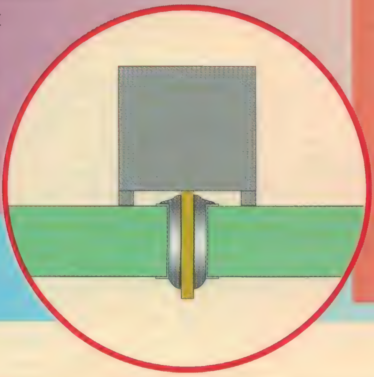
Metal Washers

- Available on headers, stackers, sockets and self-nesting sockets with (0,64mm) .025" or (0,51mm) .020" square tails
- Phosphor Bronze "washers" are locked onto tails as part of the Samtec manufacturing process
- Washers contact solder paste screened on annular rings on the printed circuit board. Solder is not screened into the plated through-hole
- When reflowed, the solder wets the lead and plated through-hole, leaving the balance of the tail solder-free for reliable mating with another socket



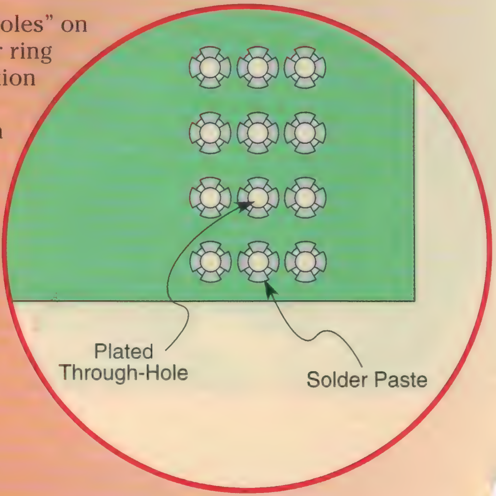
Paste Over Hole

- Solder paste can be screened over and into the plated through-hole and then the tail inserted into it
- This process is ideal for thin flat leads that can be inserted through the solder paste without displacing it from the hole

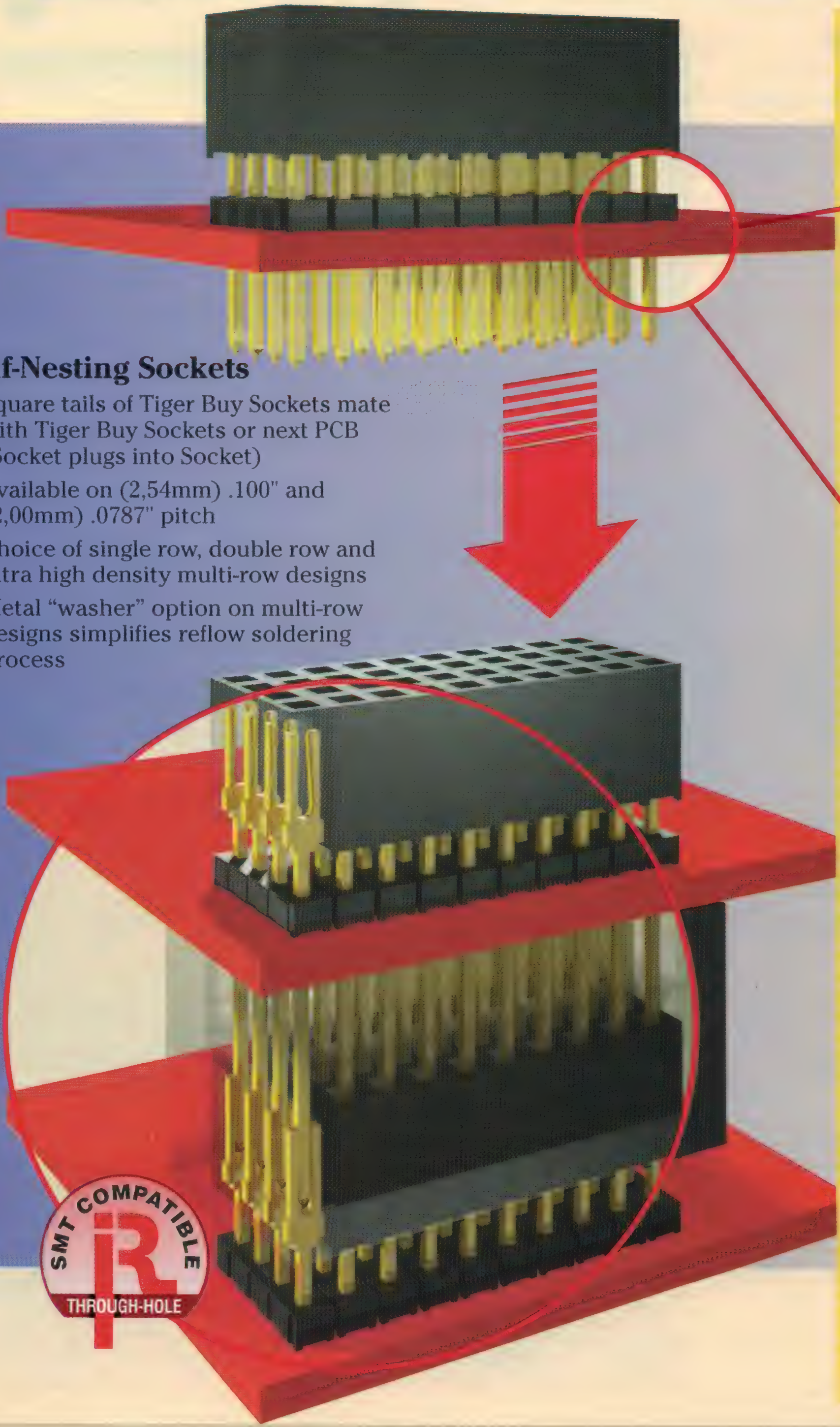


Paste Around Hole

- Screening "paste around holes" on a somewhat larger annular ring and using the capillary action of the molten solder is useful for larger leads with more surface area near the hole
- It is important to deposit enough solder to bridge the gap across the hole from the ring to the lead

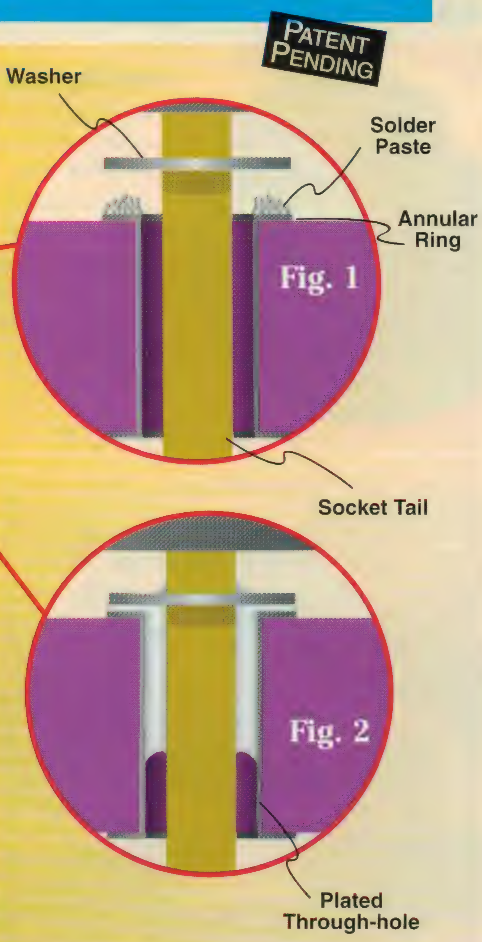


SELF-NESTING SOCKETS AND PROCESSING



Self-Nesting Sockets

- Square tails of Tiger Buy Sockets mate with Tiger Buy Sockets or next PCB (Socket plugs into Socket)
- Available on (2,54mm) .100" and (2,00mm) .0787" pitch
- Choice of single row, double row and ultra high density multi-row designs
- Metal "washer" option on multi-row designs simplifies reflow soldering process

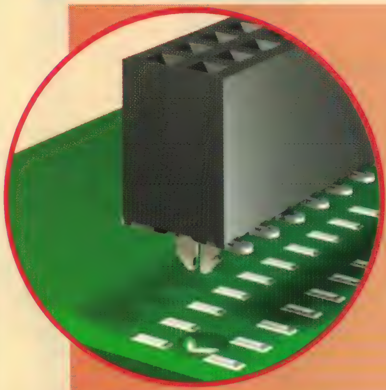


Metal Washers for One-Pass IR Soldering

- Phosphor Bronze "washers" are locked onto socket tails as part of the Samtec manufacturing process (See Fig. 1)
- Washers contact solder paste screened on annular rings on the printed circuit board. Solder is not screened into the plated through-hole (See Fig. 1)
- When reflowed, the solder wets the lead and plated through-hole, leaving the balance of the tail solder-free for reliable mating with another socket (See Fig. 2)

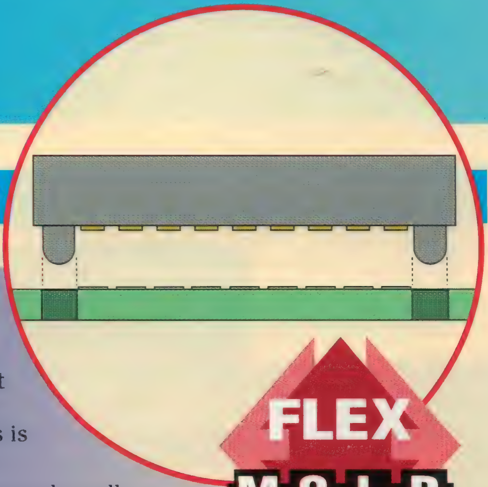
FLEX PROCESSING

IMPROVED MANUFACTURABILITY



Locking Clips

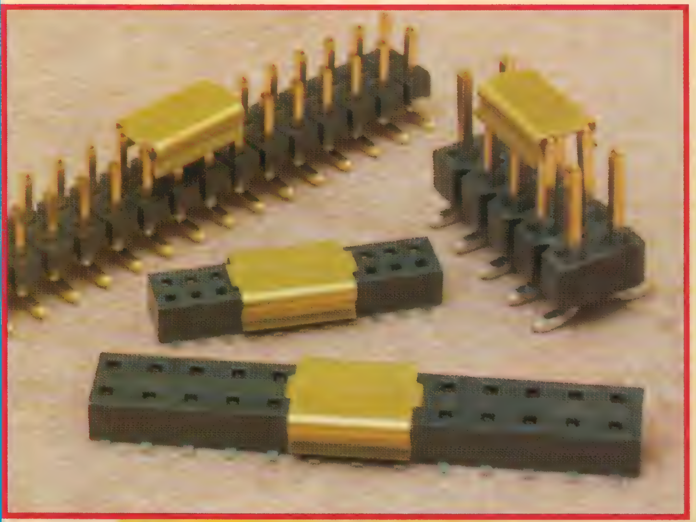
- Locking clips hold the connector in place prior to soldering
- Assure proper seating during reflow
- Simultaneously solder components to both sides of the board



Alignment Pins

- Proper alignment of the connector leads to the pads is critical
- Large lead counts and small pitch make alignment difficult
- Help ensure proper registration
- Decrease the chances of misalignment during mating
- Required in bottom entry applications and 3-board stacking applications

FLEX MOLD

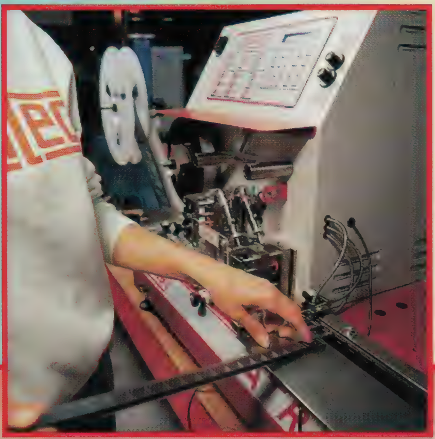


Pick-and-Place Pads

- Optional pick-and-place pads attach to metal terminals or plastic body
- PCB utilization is maximized by discarding pad once processing is complete
- Landing areas are incorporated into many designs and can be designed into Application Specific Interconnects

Tape & Reel Packaging

- Protects leads and eliminates incorrect polarization
- High processing speeds and less set up time
- Available as standard option on most common SMT interconnects
- No tooling charges with 125 piece minimum order
- In-house design and manufacture for quick turn-around



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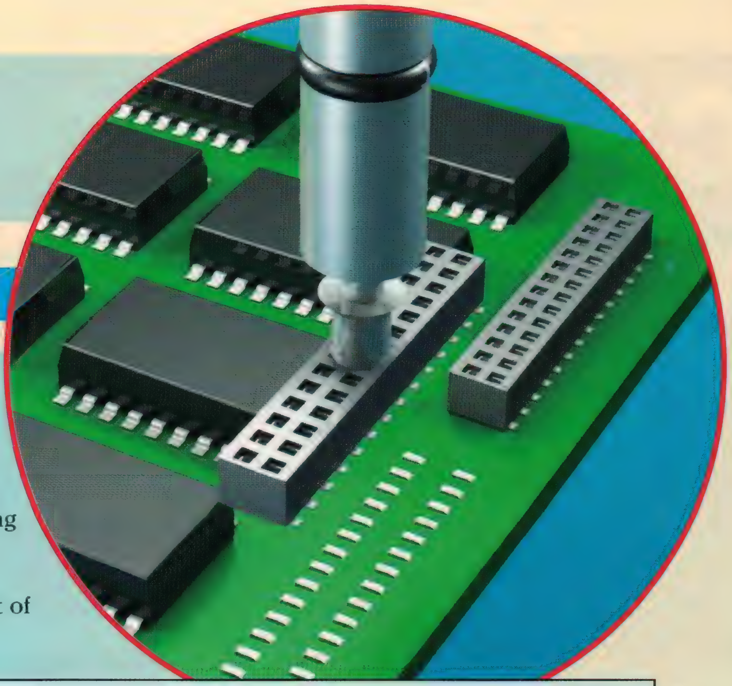


LOWER TOTAL COST

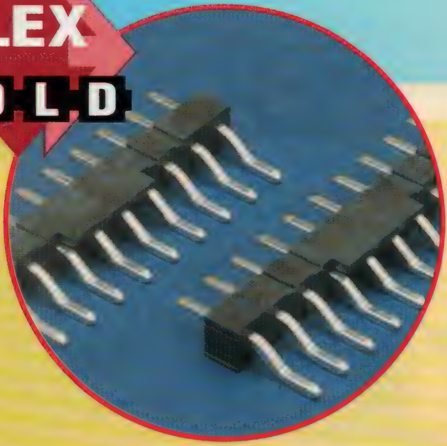
No Pad

- Sockets may be handled by auto pick-up equipment without any pick-and-place pads, custom nozzles or special machine programming
- On some equipment this can be achieved by programming out the vacuum loss sensor
- Depending on connector configuration and nozzle size, moderate vacuum loss still allows pick-up and placement of the connector without a pick-up pad

Products currently tested without pick-and-place pads include:

Socket	Pitch	Conditions	Results
CLH	(2,54mm) .100"	O-ring	Passed
CLT	(2,00mm) .0787"	No O-ring	Passed
CLP	(1,27mm) .050"	No O-ring	Passed
BKS	(1,00mm) .0394"	No O-ring	Passed
CLM	(1,00mm) .0394"	No O-ring	Passed

FLEX MOLD



Molded Pad

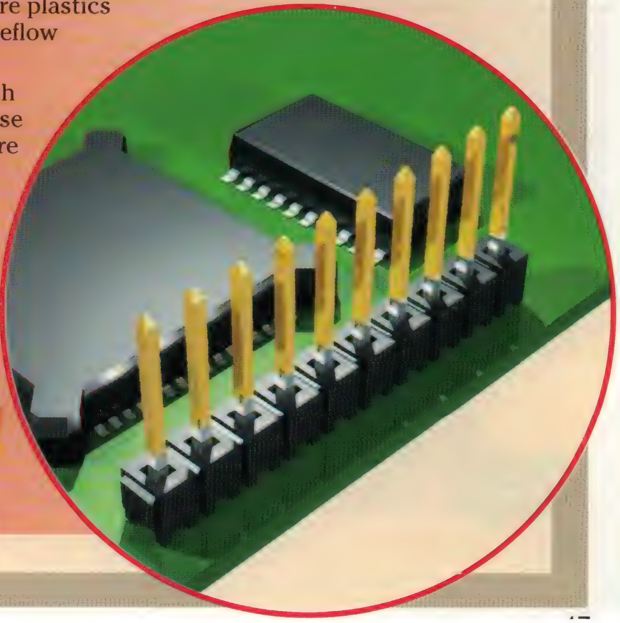
- In medium and high volume quantities, the pick-up pad (landing area) can be molded into the connector body
- Cost is reduced by eliminating the price of the pad, and the labor cost of placing it and discarding it after soldering

IR Compatible Through-Hole

- High-temperature plastics eliminate post reflow wave solder
- Most micro pitch interconnects use high temperature plastics as standard
- See specifications for maximum processing temperatures

SUDDEN SPECS!

www.samtec.com



Value Engineering

- Locking clips should only be specified when boards are subjected to vibration or turned up-side-down prior to solder reflow
- Alignment pins are usually only needed for manual board assembly and can often be eliminated
- Pick-and-place pads can be unnecessary. Request a sample to test if you can process without them
- Don't specify features that aren't needed

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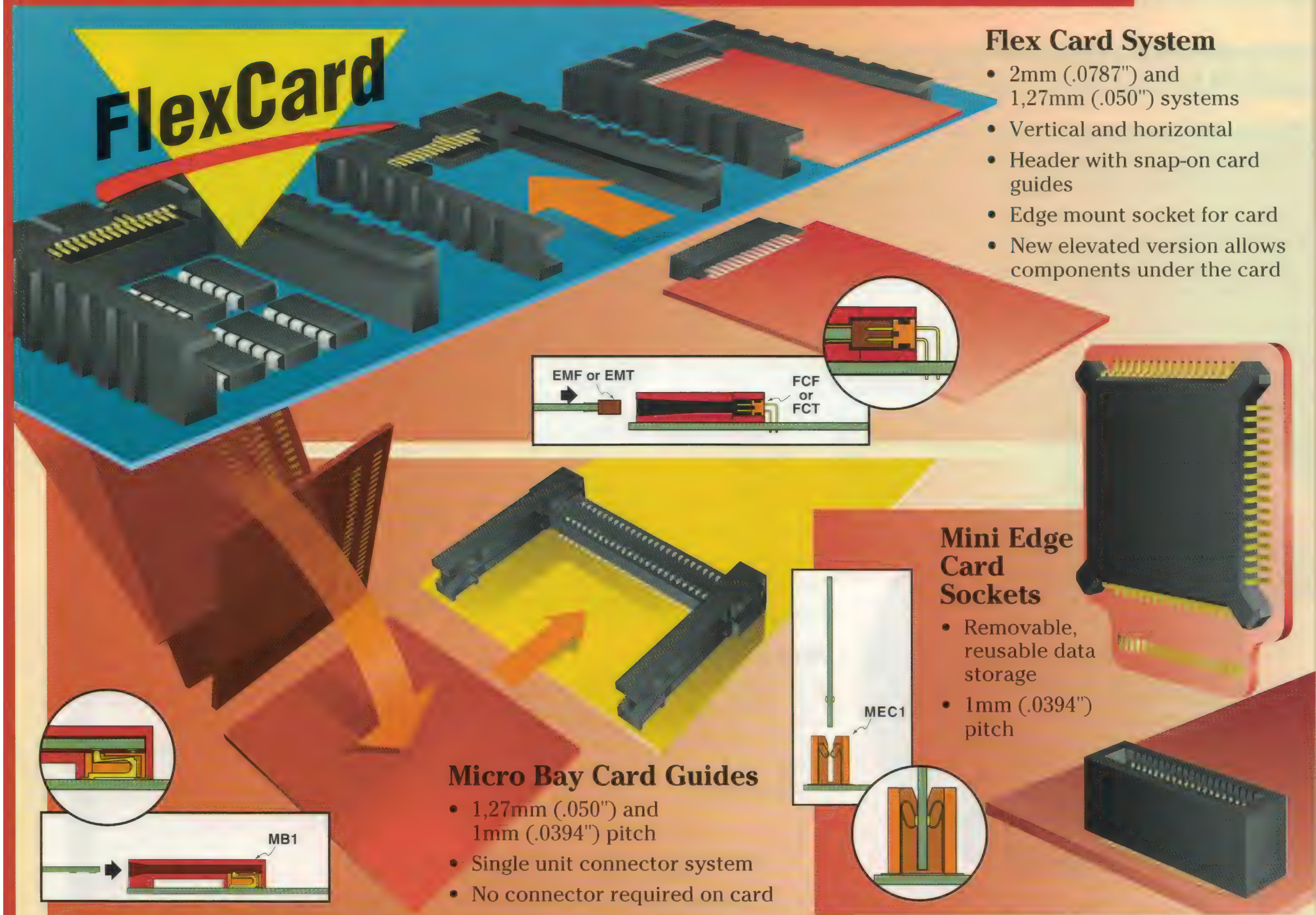
CARD-TO-BOARD



Flex Card System

- 2mm (.0787") and 1,27mm (.050") systems
- Vertical and horizontal
- Header with snap-on card guides
- Edge mount socket for card
- New elevated version allows components under the card

Mini Edge Card Sockets

- Removable, reusable data storage
- 1mm (.0394") pitch

Micro Bay Card Guides

- 1,27mm (.050") and 1mm (.0394") pitch
- Single unit connector system
- No connector required on card

SERIES	FLEX CARD				MICRO BAY	EDGE
	FCF (1,27mm) .050" Flex Card Terminal Strip	**EMF** (1,27mm) .050" Edge Mount Socket Strip	**FCT** (2,00mm) .0787" Flex Card Terminal Strip	**EMT/SM2** (2,00mm) .0787" Edge Mount Socket Strip	**MB1** (1,00mm) .0394" Mini Card Guide Connector	**MEC1** (1,00mm) .0394" Micro Edge Card Connector
STYLES AVAILABLE						
PAGE NUMBER	28	29	30	31, 32	33	34

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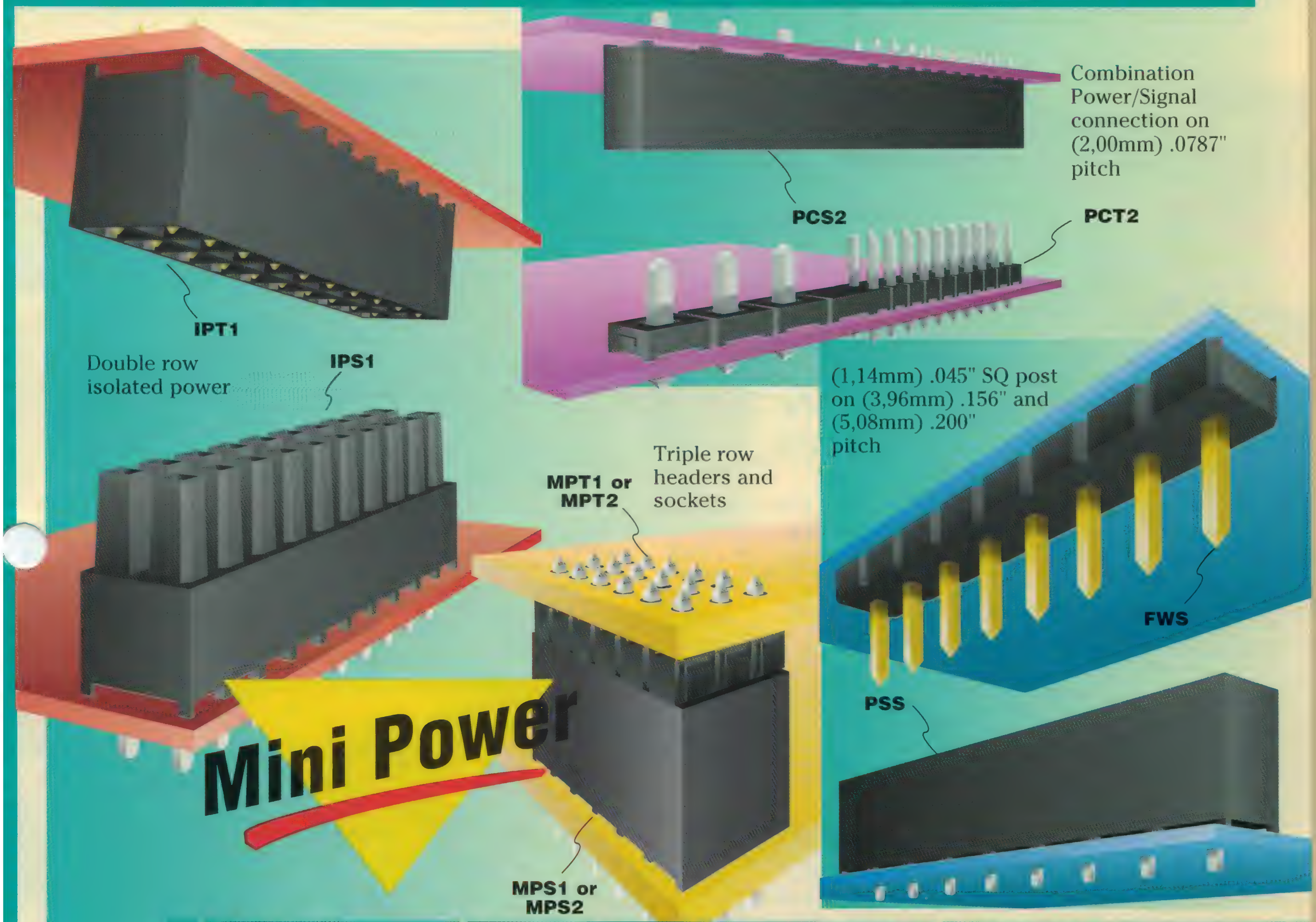
POWER-TO-BOARD



SERIES	COMBO		MINI-POWER				POWER		
	PCT2 (2,00mm) .0787" Combination Power/Signal Header	**PCS2** (2,00mm) .0787" Combination Power/Signal Socket	**MPT2 MPS2** (2,00mm) .0787" Terminal/Socket	**MPT1 MPS1** (2,54mm) .100" Terminal/Socket	**IPT1** (2,54mm) .100" Isolated Terminal	**IPS1** (2,54mm) .100" Isolated Socket	**FWJ JW** (3,96mm) .156" Header/Stacker	**FWS SW** (5,08mm) .200" Header/Stacker	**PSS** (5,08mm) .200" Socket
STYLES AVAILABLE									
PAGE NUMBER	148	149	150	151	152	153	154	155	156

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MICRO BOARD-TO -BOA

	0,50mm	0,8mm	1mm (.0394")				.050" (1,27mm)						
SERIES	HMT HMF Connector Set	FTE/CLE AW Connector Set	SEI One Piece Interface	MW FTMH Headers & Stackers	CLM MLE Socket Strips	BKS BKT Connector Set	OPC One Piece Connector	CSB MSB Connector Set	SOLC TOLC Connector Set	TFM SFM Connector Set	FTSH FW Headers & Stackers	DIS5 Zero Profile Terminals	CLP FLE Socket Strips
STYLES AVAILABLE		TIGER BEAM CONTACT			TIGER CLAW CONTACT; TIGER BEAM CONTACT	TIGER CLAW CONTACT		TIGER EYE CONTACT	TIGER BUY CONTACT	TIGER EYE CONTACT	TIGER CLAW CONTACT		TIGER CLAW CONTACT; TIGER BEAM CONTACT
PAGE NUMBER	40-41	42-44	38	45-46	48-49	50-51	39	52-53	54-55	60-63	64,70	68-69	74-75

.050" x .100" (1,27mm x 2,54mm)					2mm (.0787")								
TMS MTMS Terminal Strips	**DWM HDWM** Board Stackers	**TML ZML** Shrouded Terminals	**RSM FTR** SMT Strips	**SLM SMS** Socket Strips	**TMM TMMH** Terminal Strips	**EHT** Ejector Terminal Strips	**TW** Board Stackers	**SQT SQW** Socket Strips	**ESQT ATS** Elevated Socket	**CLT** Socket Strips	**TLE** Socket Strips	**MMS** Socket Strips	**SMM** Socket Strips
				TIGER BUY CONTACT				TIGER BUY CONTACT		TIGER CLAW CONTACT	TIGER BEAM CONTACT		TIGER EYE CONTACT
76-77	78-79	80-83	84-85	86-87	88-93	96-97	101-103	107-110	111	112	106	114-115	116-117

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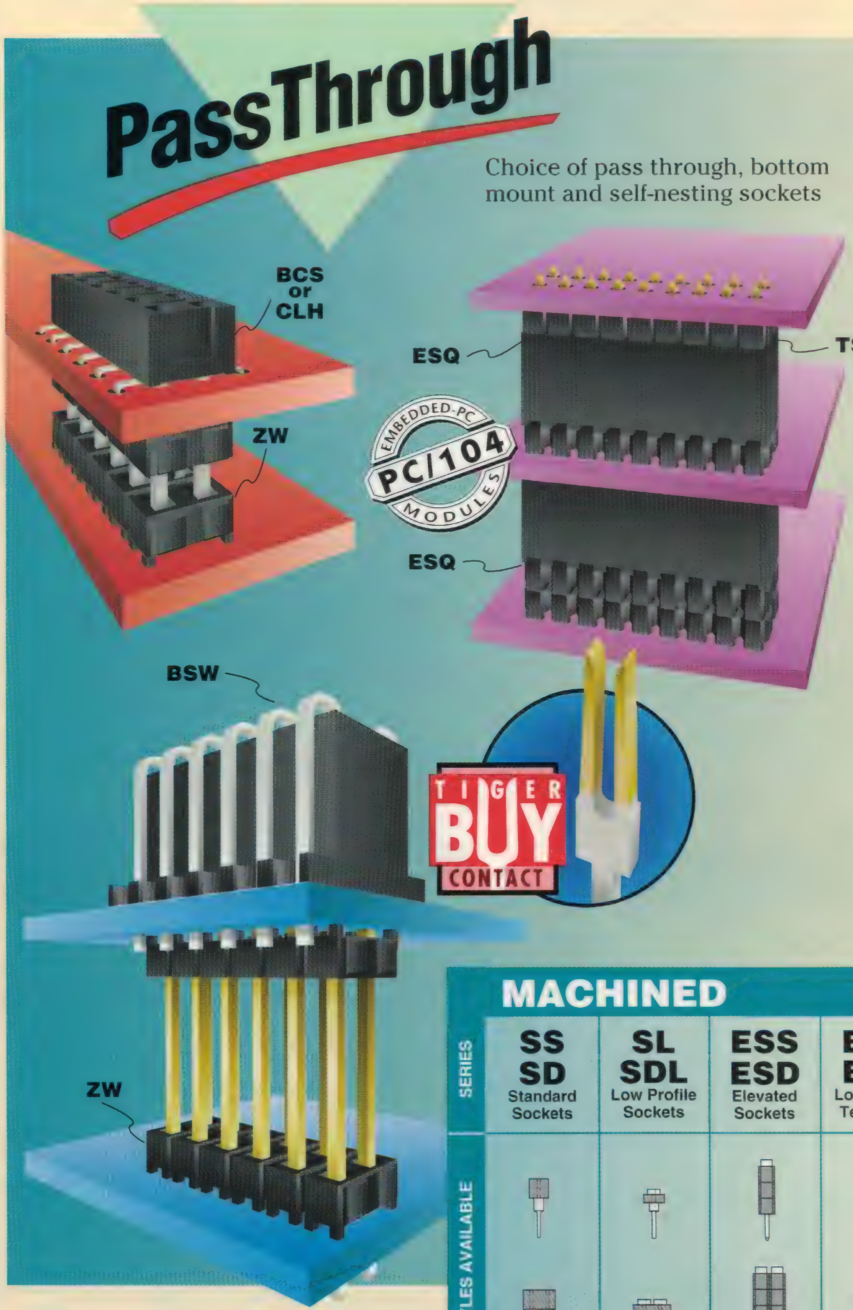
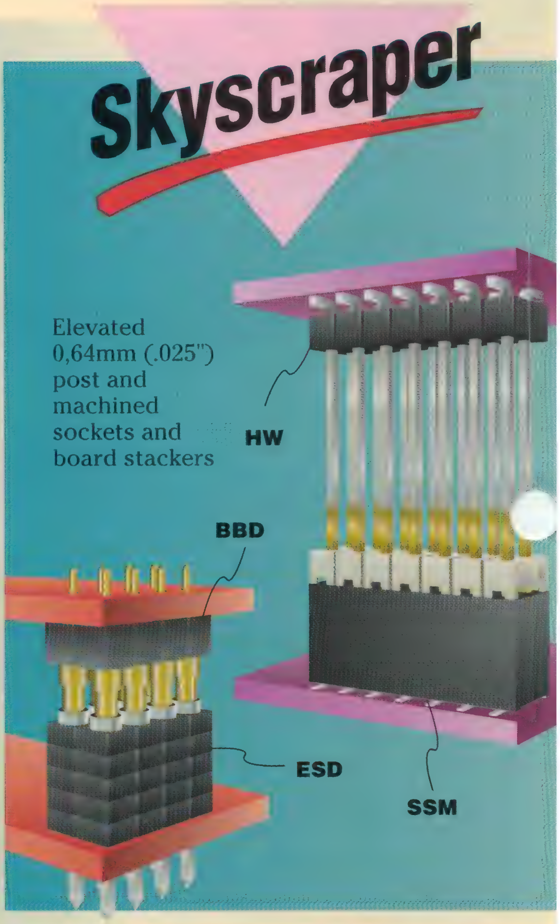
.100"(2,54mm) BOARD-TO-B





	MACHINED					.025"(0,64mm) SQ		
SERIES	SS SD Standard Sockets	SL SDL Low Profile Sockets	ESS ESD Elevated Sockets	BBL BDL Low Profile Terminals	BBS BBD Standard Terminals	TSW MTSW Standard & Modified Terminals	TSM Surface Mount Terminals	TLW MTLW Low Profile Terminals
STYLES AVAILABLE								
PAGE NUMBER	141	142	143	144	144	118, 122	120	124

	DW / EW HW / ZW Board Stackers	HW SMT Board Stackers	ZSS TSS Shrouded Terminals	FHW Low Noise Board Stackers	SSW SSQ Standard Sockets	SSM Surface Mount Sockets	CLH Low Profile Sockets	BCS Pass Through Sockets	ESW ESQ Elevated Sockets	BSW Bottom Mount Sockets	SLW CES Low Profile Sockets
					TIGER BUY CONTACT		TIGER CLAW CONTACT		TIGER BUY CONTACT	TIGER BUY CONTACT	
	126	128	129	125	130	133	134	136	137	138	139

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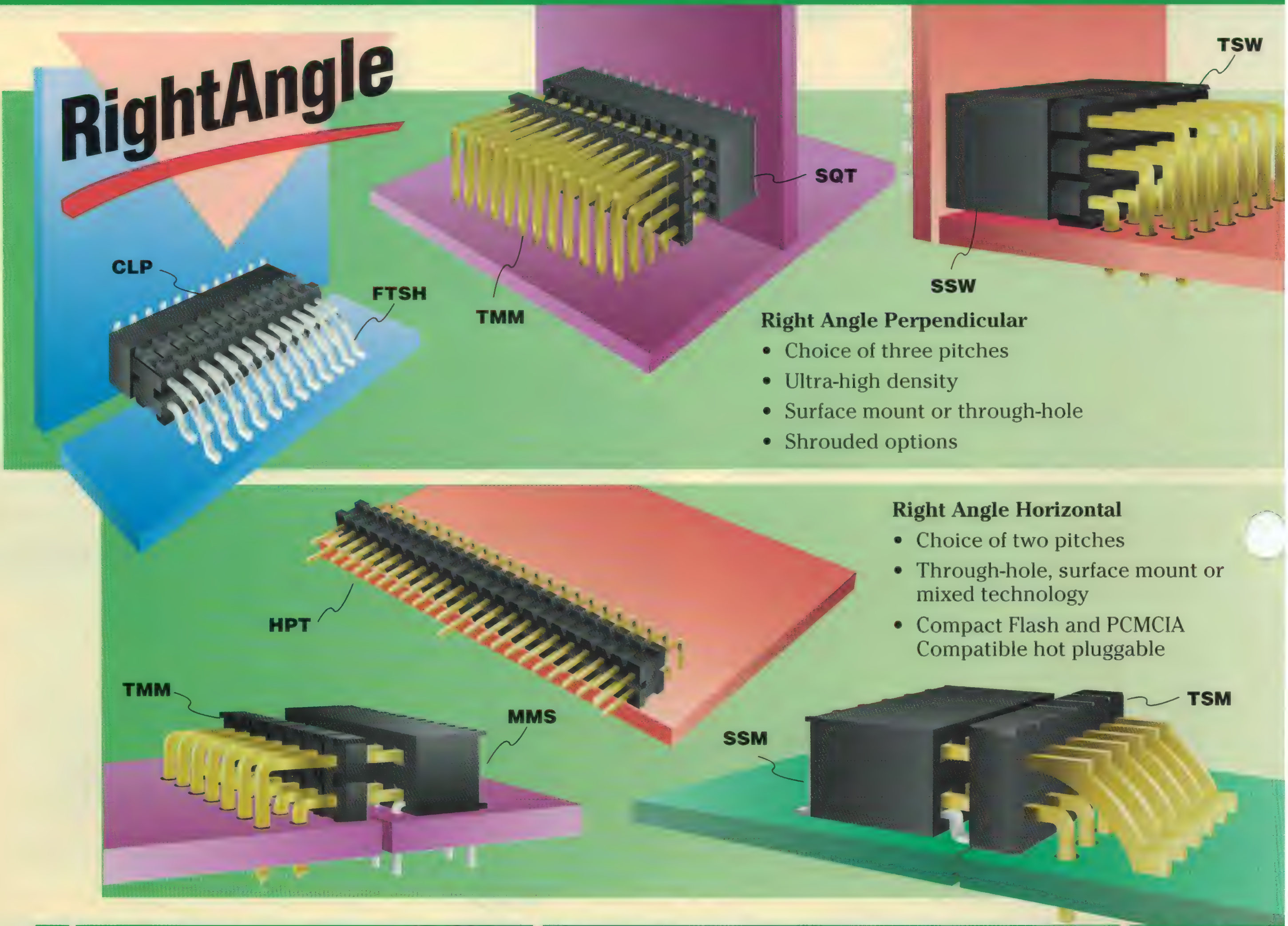
RIGHT-ANGLE & CABL

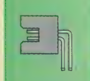
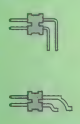
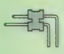
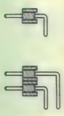
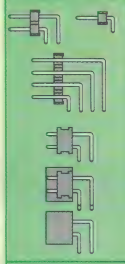
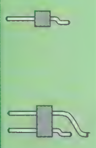
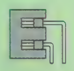
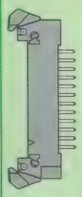
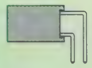
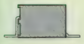
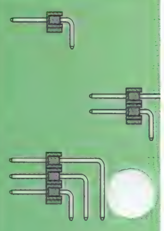


Right Angle Perpendicular

- Choice of three pitches
- Ultra-high density
- Surface mount or through-hole
- Shrouded options

Right Angle Horizontal

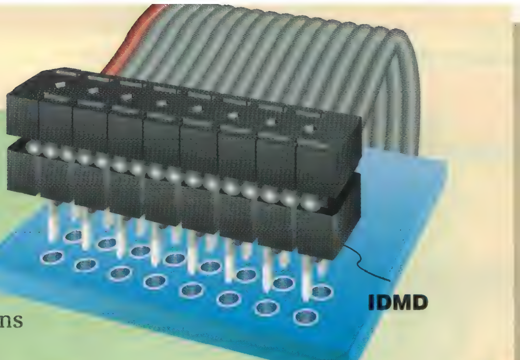
- Choice of two pitches
- Through-hole, surface mount or mixed technology
- Compact Flash and PCMCIA Compatible hot pluggable

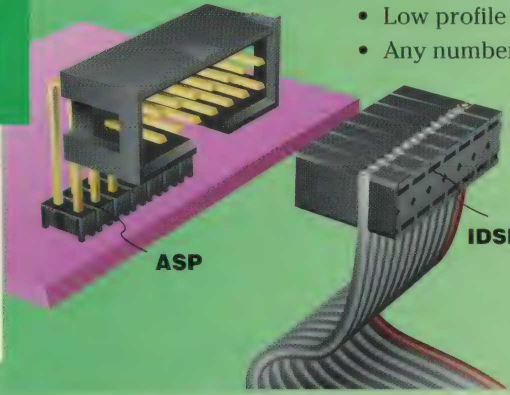
	.050" (1,27mm)					2mm (.0787")						.100" (2,5
SERIES	TFM Shrouded Terminal Strip	FTSH Terminal Strip	HPT Terminal Strip	TMS Terminal Strips	TML Shrouded Terminal Strips	TMM TMMH Terminal Strips	MMT SMT Terminal Strips	STMM Shrouded Terminal Strips	EHT Ejector Terminal Strips	SQT Socket Strips	MMS Horizontal Socket Strips	TSW MTSW Standard & Modified Terminals
STYLES AVAILABLE										TIGER BUY CONTACT 		
PAGE NUMBER	63	64,66	67	76	81	90,93	100	99	97	109	114	118, 122

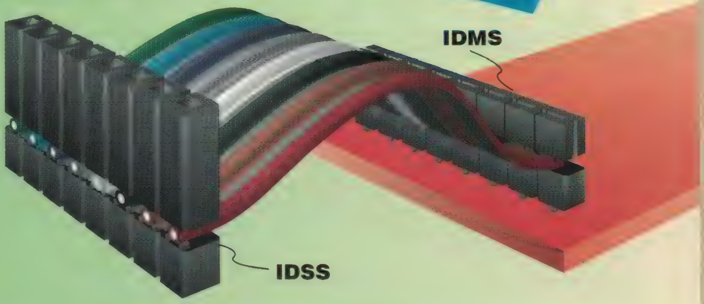
ES

Cable Interfaces

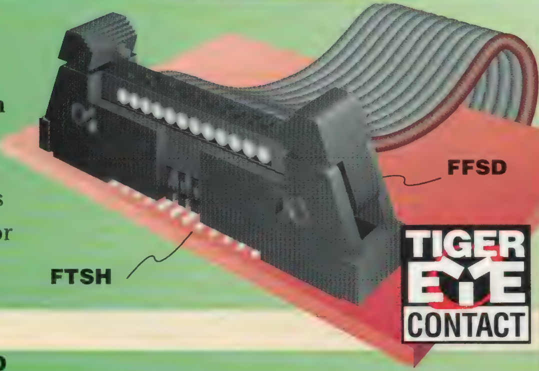
2,54mm (.100") pitch
- Single and double row
- Low profile socket and terminal designs
- Any number of positions available



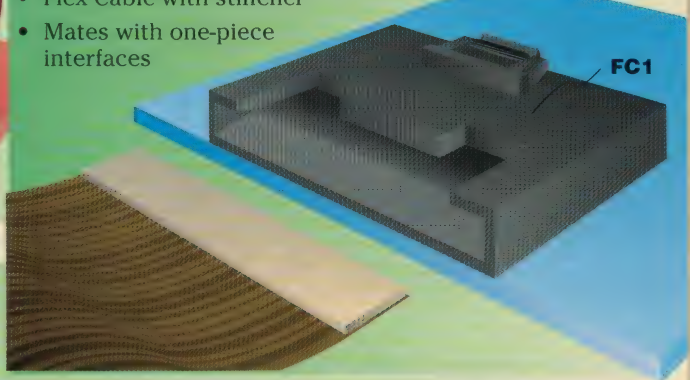


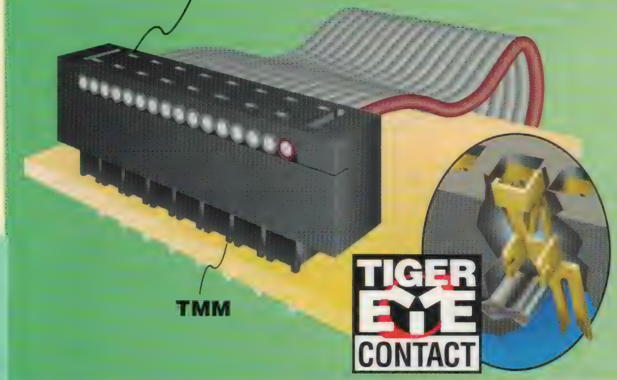


1,27mm (.050") pitch
- Low profile
- High performance Tiger Eye contacts
- See FLE & SFMC for flex applications

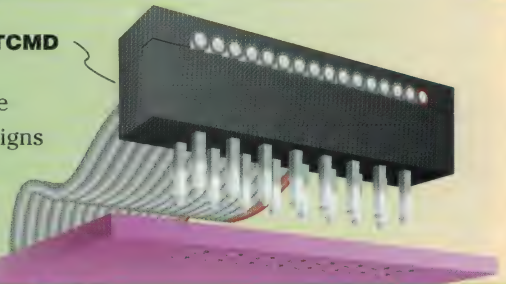


0,64mm (.025") pitch
- Flex Cable with stiffener
- Mates with one-piece interfaces





2mm (.0787") pitch
- Exceptionally low profile
- Socket and terminal designs
- Tiger Eye contacts

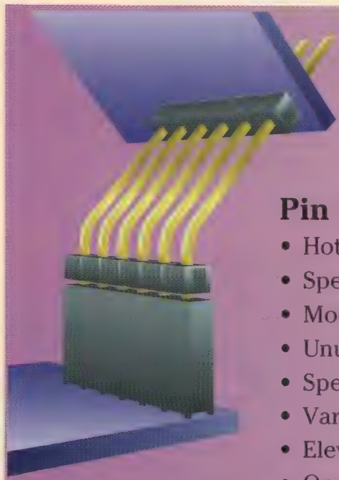


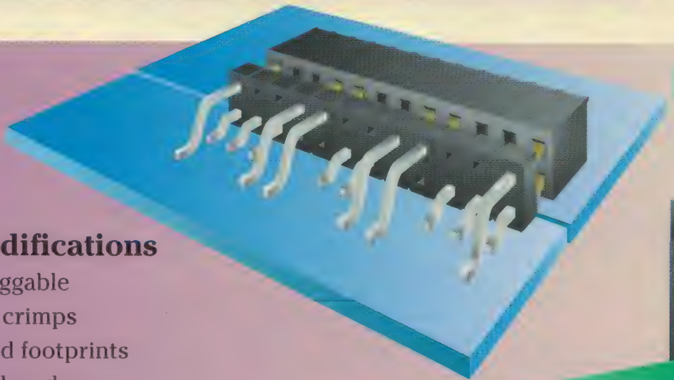
mm)						IDC CABLE				FLEX
TSM SMT Headers	**TSS** Shrouded Terminals	**SSW SSQ** Standard Sockets	**SSM** Horizontal Sockets	**BCS** Pass Through Sockets	**CES** Low Profile Sockets	**IDSS IDSD** .100" (2,54mm) Socket	**IDMS IDMD** .100" (2,54mm) Terminal	**TCSD TCMD** 2mm (.079") Socket & Terminal	**FFSD** .050" (1,27mm) Socket	**FC1** Flex Cable Interconnect
120	129	130	133	136	139	158	158	160-161	162	163

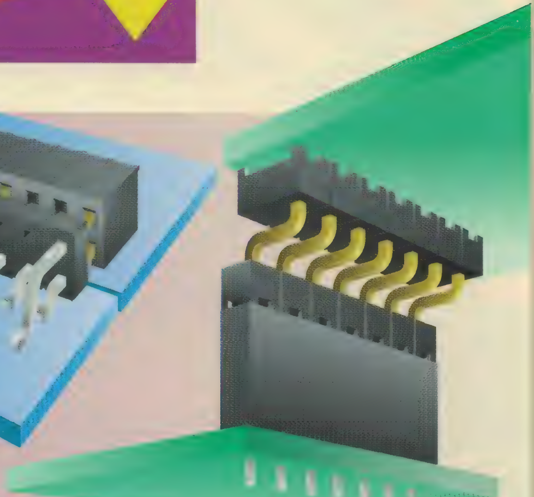
F-198-2

MODIFIEDS

Application Specific

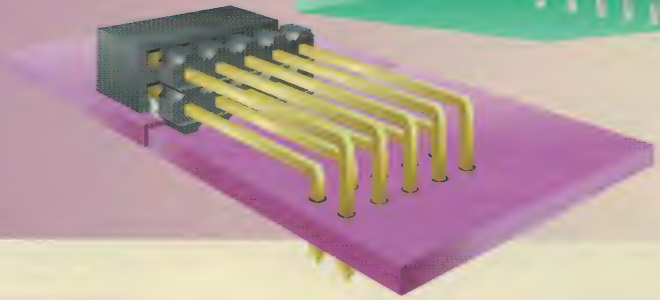






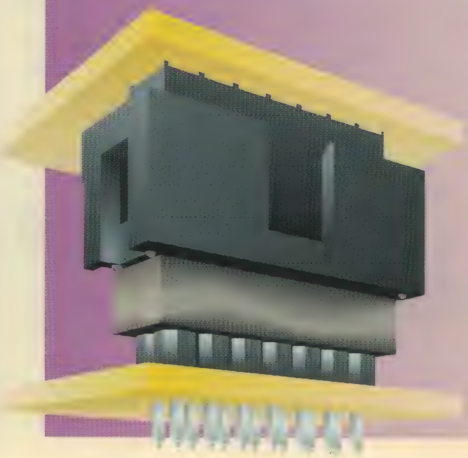
Pin Modifications

- Hot pluggable
- Special crimps
- Modified footprints
- Unusual angles
- Special jumpers
- Varied pin height
- Elevated right angles
- Opposing bends
- Multiple polarization/ selectively loaded
- Adaptors



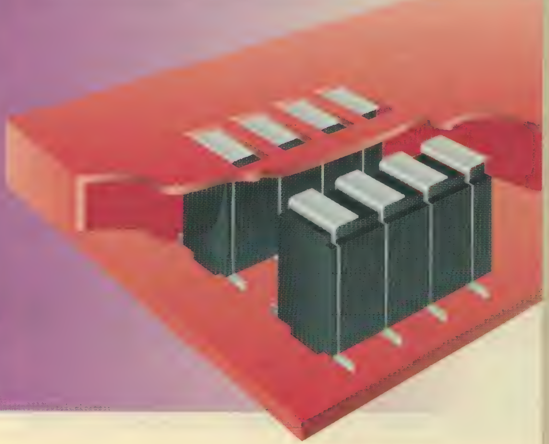
Body Modifications

- Custom material
- Molded pick-and-place pads
- Custom shrouds
- Modified alignment pin size and position
- Screen printing
- Ferrite shielding
- Multiple stacked bodies
- Hardware enhancements for ease of placement and mechanical stability



Other

- One-piece battery interfaces
- Prepositioned solder preforms
- Multiple capacitors
- Special plating
- Custom packaging and bar coding
- Development and testing



CARD TO BOARD

(1,27mm) .050" Flex Card and Socket 28-29
(2,00mm) .0787" Flex Card and Socket 30-32
Mini Card Guide System (MB1) 33
Mini Edge Card System (MEC1) 34

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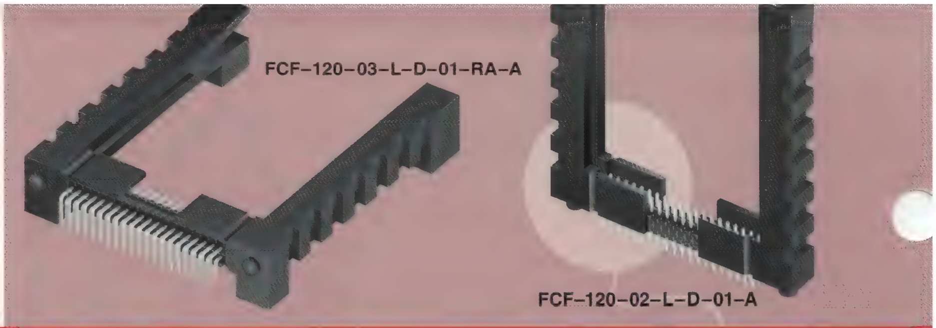


.050" FLEX CARD TERMINAL FCF SERIES

Specifications: FCF

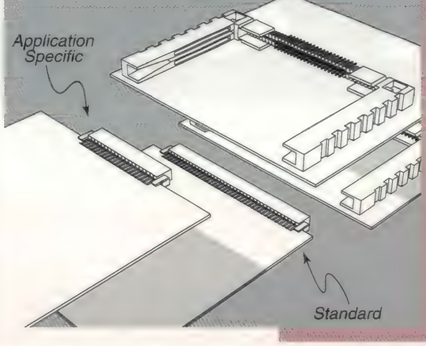
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
2A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Max Processing Temp:
230°C for 60 seconds
Plating:
Sn or Au over 50µ" (1,27µm) Ni

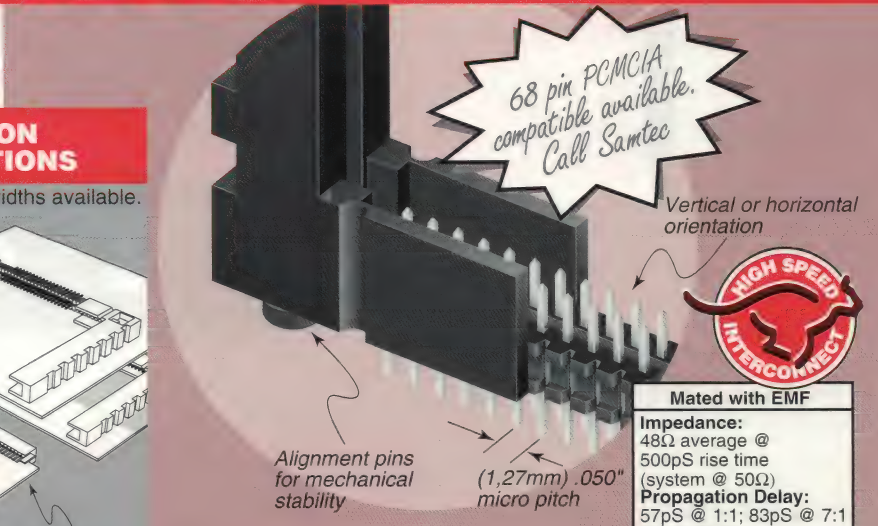
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
EMF

APPLICATION SPECIFIC OPTIONS

Other pin counts and card widths available. Call Samtec.





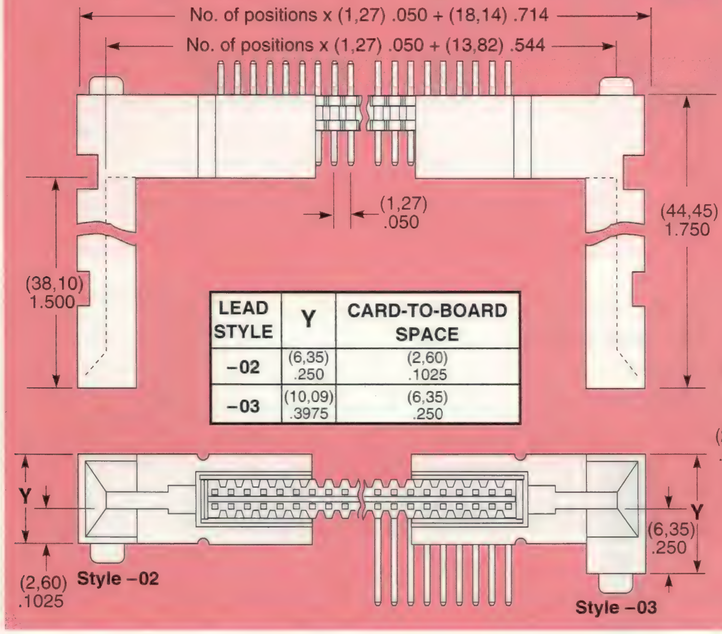
Mated with EMF

Impedance:
48Ω average @ 500pS rise time (system @ 50Ω)
Propagation Delay:
57pS @ 1:1; 83pS @ 7:1
Cross Talk:
-26.0 dB G/S/S/G @ 500pS rise time

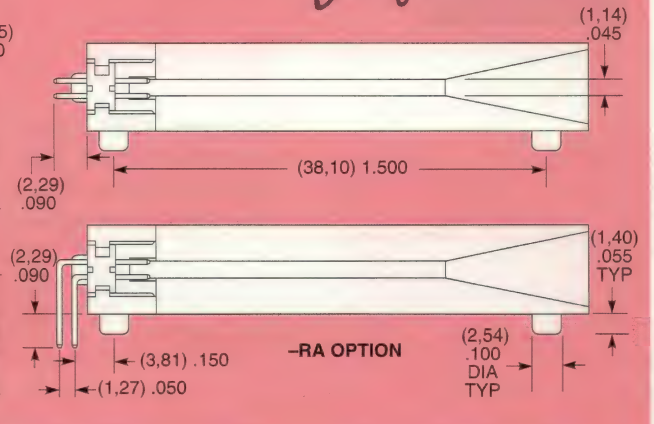
FCF – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – CARD SLOT – TAIL OPTION – A

- **NO. PINS PER ROW:** 20, 30, 40 & 50 (Call Samtec for other sizes)
- **LEAD STYLE:** Specify LEAD STYLE from chart
- **PLATING OPTION:**
  - **–L** = 10µ" (0,25µm) Gold on post 75µ" (1,90µm) Tin on tail
  - **–S** = 30µ" (0,76µm) Gold on post, 75µ" (1,90µm) Tin on tail
- **CARD SLOT:** **–01** = Accepts (0,80mm) .031" thick card
- **TAIL OPTION:** **–RA** = Right Angle (Leave blank for vertical version. Style –02 only)

New Elevated Design!



LEAD STYLE	Y	CARD-TO-BOARD SPACE
–02	(6,35) .250	(2,60) .1025
–03	(10,09) .3975	(6,35) .250



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SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 **SAMTEC JAPAN** • Tel: 81-424-42-8318 • Fax: 81-424-42-8319

Due to technical progress, all designs, specifications and components are subject to change without notice.

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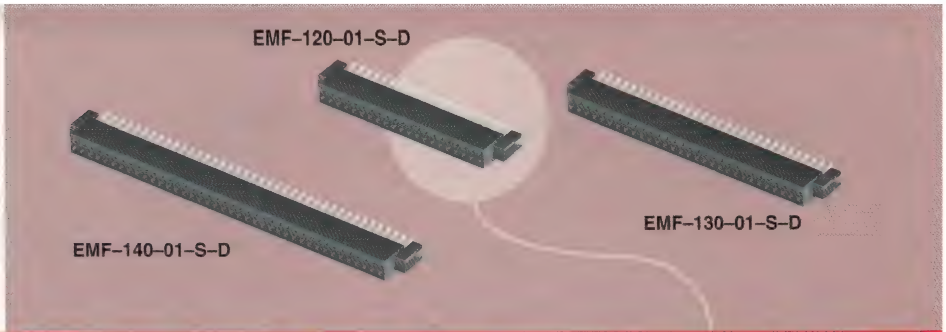


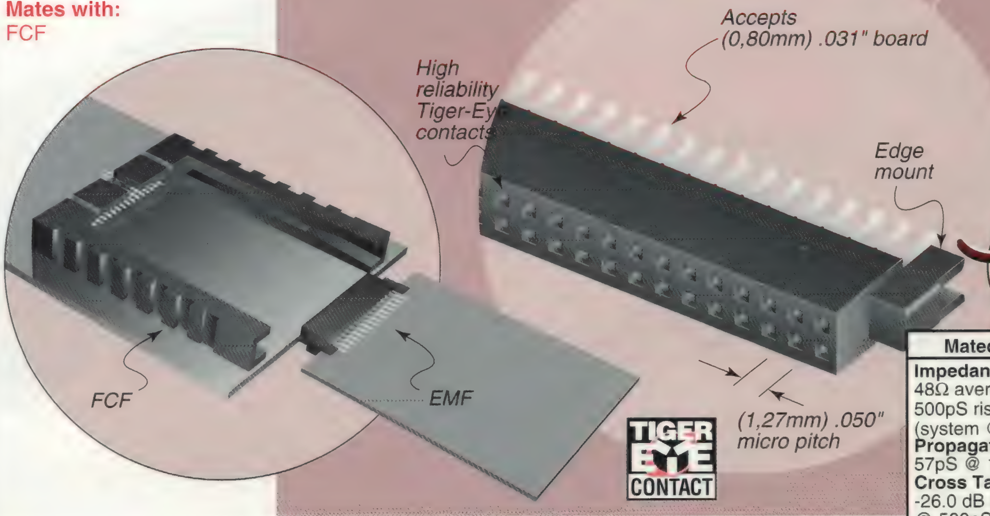
EDGE MOUNT SOCKET STRIP EMF SERIES

Specifications: EMF

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
1A
Operating Temp Range:
-65°C to +125°C
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,05mm) .120"
to (4,06mm) .160"
Insertion Force:
Standard= 5oz (1,39N) avg;
LIF= 2.8oz (0,78N) avg.
Withdrawal Force:
Standard= 4oz (1,11N) avg;
LIF= 1.6oz (0,44N) avg.

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with:
FCF



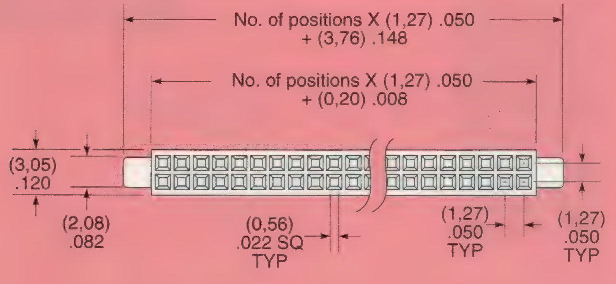
Mated with FCF
Impedance:
48Ω average @
500pS rise time
(system @ 50Ω)
Propagation Delay:
57pS @ 1:1; 83pS @ 7:1
Cross Talk:
-26.0 dB G/S/S/G
@ 500pS rise time

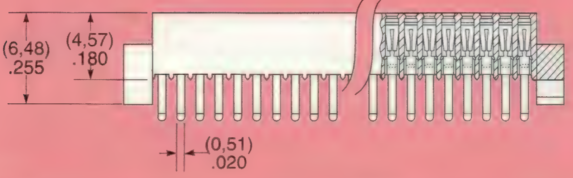
EMF – 1 NO. PINS PER ROW – CARD THICKNESS – PLATING OPTION – D

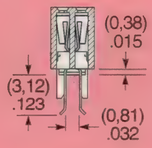
NO. PINS PER ROW
20, 30, 40 & 50
(Call Samtec for other sizes)

CARD THICKNESS
–01
= (0,80mm) .031" thick board

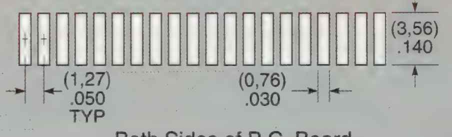
PLATING OPTION
–L
= 10µ" (0,25µm)
Gold on contact
100µ" (2,54µm) Tin on tail
–S
= 30µ" (0,76µm)
Gold on contact
100µ" (2,54µm) Tin on tail







SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



Both Sides of P.C. Board

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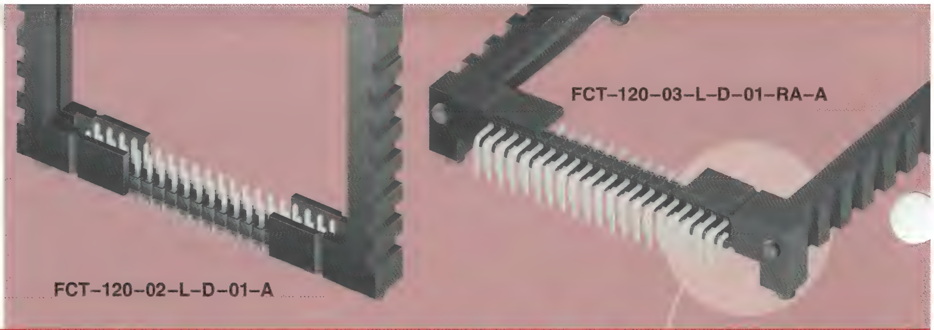


2 mm FLEX CARD TERMINAL FCT SERIES

Specifications: FCT

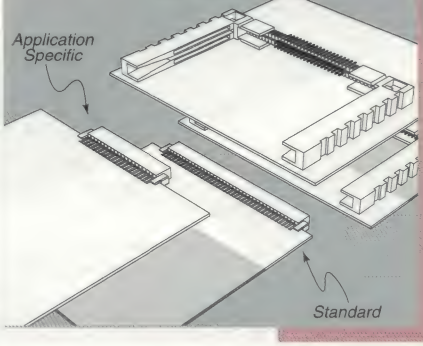
Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Max Processing Temp: 230°C for 60 seconds
Plating: Sn or Au over 50µ" (1,27µm) Ni

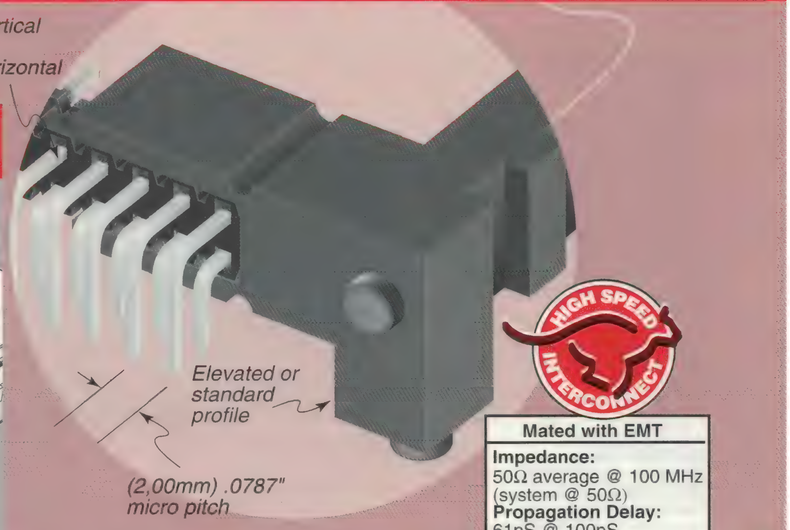
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: EMT, SM2

APPLICATION SPECIFIC OPTIONS

Other pin counts and card widths available. Call Samtec.





Mated with EMT
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 61pS @ 100pS
Cross Talk: -22 dB G/S/S/G @ 1 GHz

FCT – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – CARD SLOT – TAIL OPTION – A

NO. PINS PER ROW: 20, 30 & 40 (Call Samtec for other sizes)

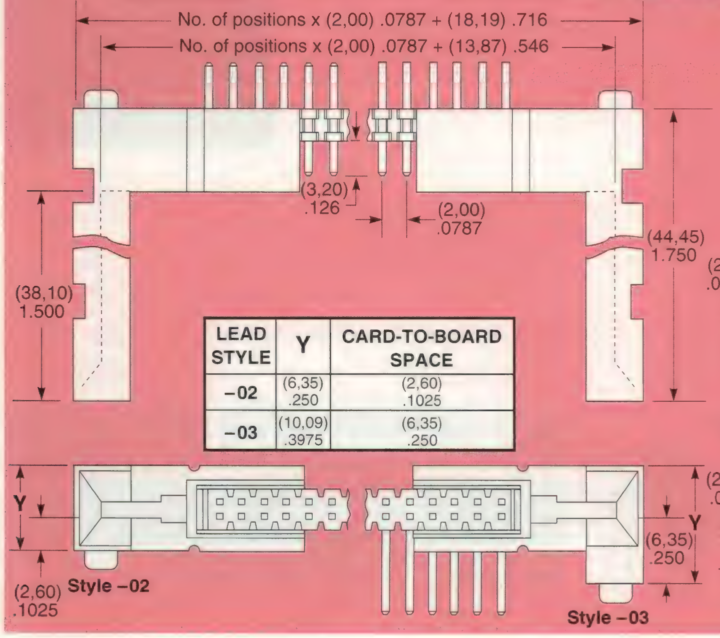
LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
- **–L** = 10µ"(0,25µm) Gold on post 150µ" (3,81µm) Tin on tail
- **–S** = 30µ" (0,76µm) Gold on post, 150µ" (3,81µm) Tin on tail
- **–F** = Gold flash on post, 150µ" (3,81µm) Tin on tail

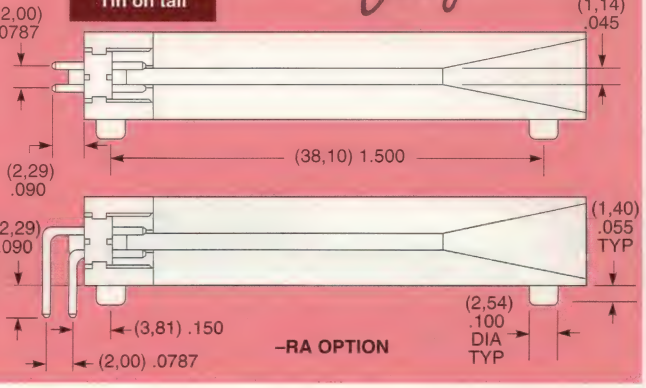
CARD SLOT: **–01** = Accepts (0,80mm) .031" thick card

TAIL OPTION: **–RA** = Right Angle (Leave blank for vertical version. Style –02 only)

New Elevated Design!



LEAD STYLE	Y	CARD-TO-BOARD SPACE
–02	(6,35) .250	(2,60) .1025
–03	(10,09) .3975	(6,35) .250



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Due to technical progress, all designs, specifications and components are subject to change without notice.

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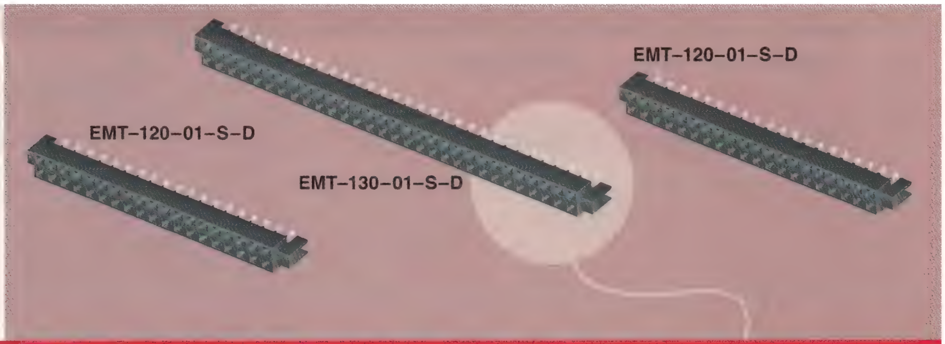
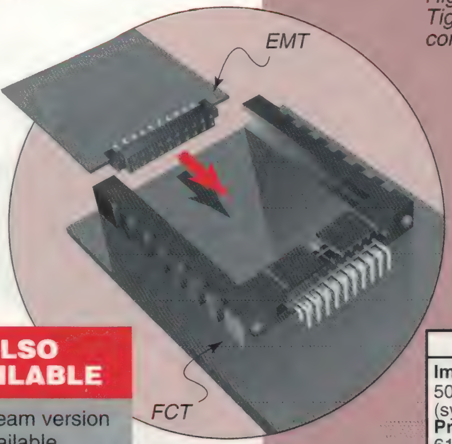


EDGE MOUNT SOCKET STRIP EMT SERIES

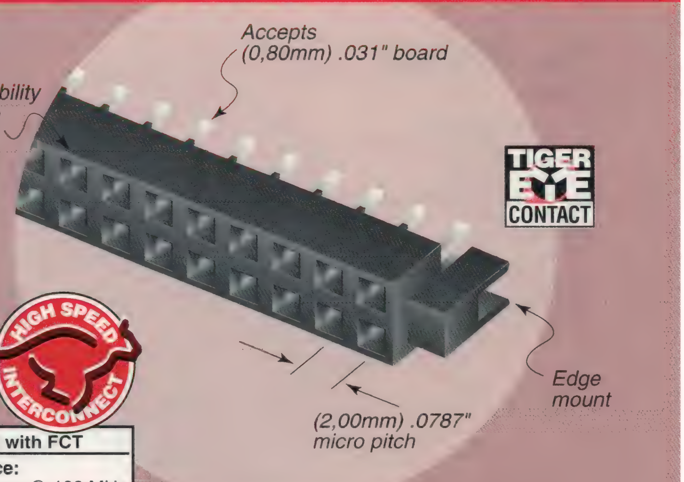
Specifications: EMT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Max Processing Temp:
230°C for 60 seconds
Plating:
Sn or Au over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,05mm) .120"
to (3,30mm) .130"
Insertion Force:
4.5 oz (1,25N) average
Withdrawal Force:
3.0 oz (0,83N) average

Mates with:
FCT



ALSO AVAILABLE
Tiger Beam version available.
See SM2 series.



TIGER EYE CONTACT

HIGH SPEED INTERCONNECT

Mated with FCT
Impedance:
50Ω average @ 100 MHz
(system @ 50Ω)
Propagation Delay:
61pS @ 100pS
Cross Talk:
-22 dB G/S/S/G @ 1 GHz

Note:
Some lengths, styles and options are non-standard, non-returnable.

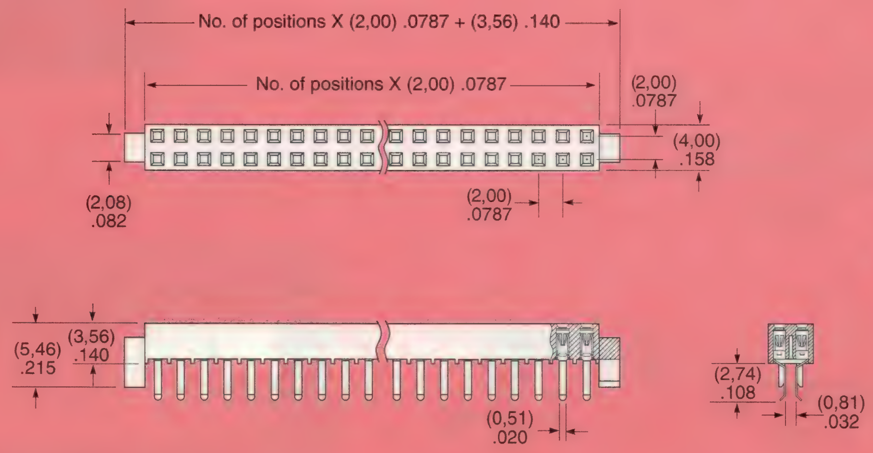
EMT – 1 – NO. PINS PER ROW – CARD THICKNESS – PLATING OPTION – D

NO. PINS PER ROW
20, 30 & 40
(Call Samtec for other sizes)

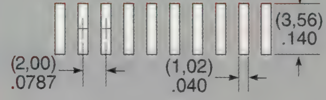
CARD THICKNESS
–01
= (0,80mm) .031" thick board

PLATING OPTION
–L
= 10µ" (0,25µm) Gold on contact
100µ" (2,54µm) Tin on tail

–S
= 30µ" (0,76µm) Gold on contact
100µ" (2,54µm) Tin on tail



SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



Both Sides of P.C. Board

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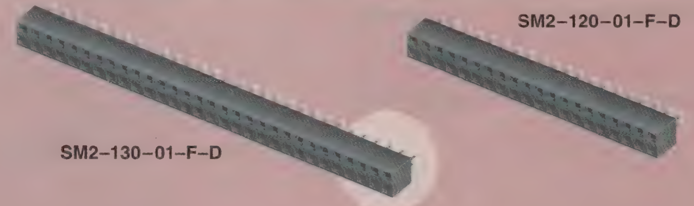
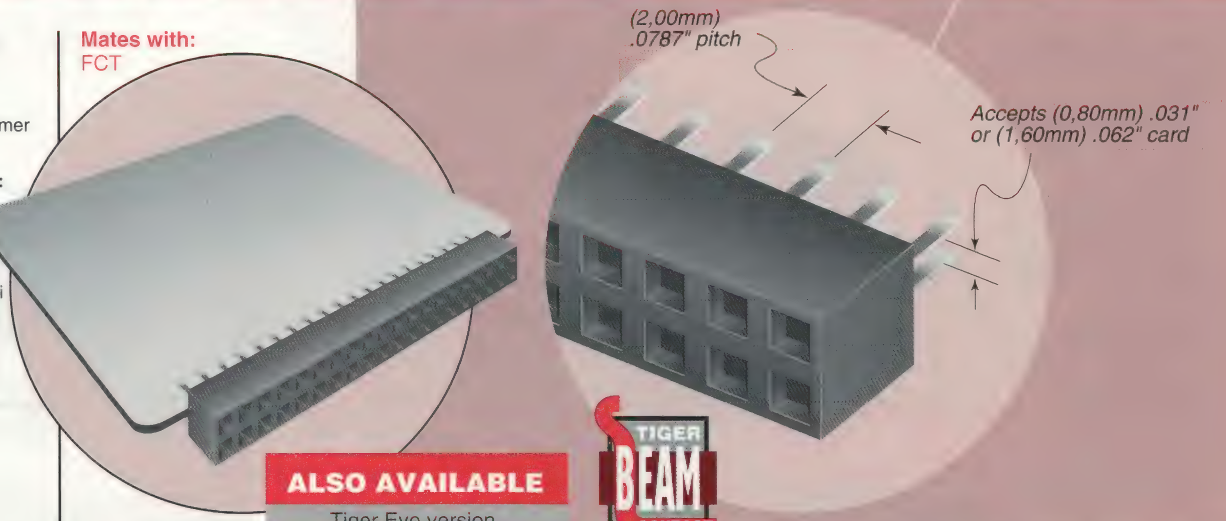


EDGE MOUNT SOCKET STRIP SM2 SERIES

Specifications: SM2

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C
Max Processing Temp:
230°C for 60 seconds
Plating:
Au over 50µ" (1,27µm) Ni

Mates with:
FCT



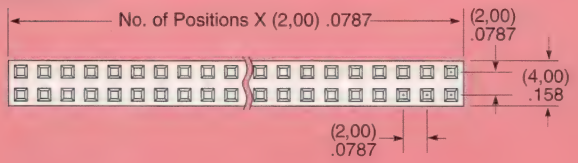
ALSO AVAILABLE
Tiger Eye version.
See EMT series.

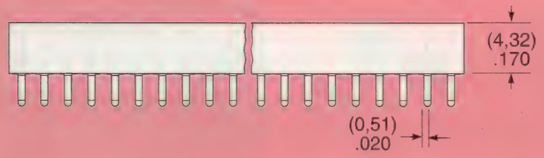
TIGER BEAM CONTACT

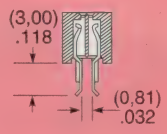
Note:
Some lengths, styles and options are non-standard, non-returnable.

SM2 – 1 – NO. PINS PER ROW – CARD THICKNESS – PLATING OPTION – D

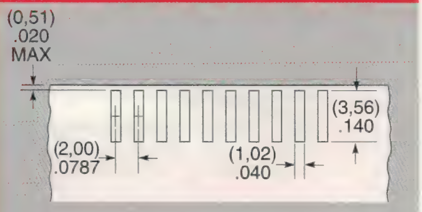
NO. PINS PER ROW	CARD THICKNESS	PLATING OPTION
02 thru 50 (Call Samtec for other sizes)	**–01** = Accepts (0,80mm) .031" thick card	**–F** = Gold flash on contact 150µ" (3,81µm) Tin on tail **–L** = 10µ" (0,25µm) Gold on contact 150µ" (3,81µm) Tin on tail







SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



Both Sides of P.C. Board

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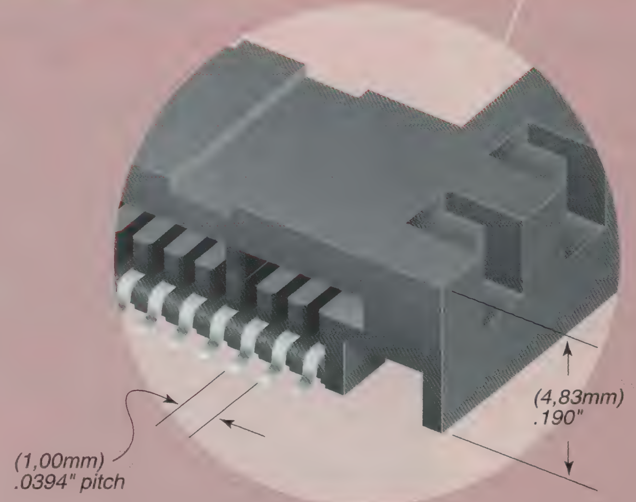
1mm MINI CARD GUIDE MB1 SERIES



Specifications:

MB1

Insulator Material:
Black LCP
Contact Material:
BeCu
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni
Current Rating:
Testing Now!
Max Processing Temp:
230°C for 60 seconds
Contact Resistance:
Testing Now!
Insertion Force:
Testing Now!
Normal Force:
Testing Now!
Withdrawal Force:
Testing Now!
Max Cycles:
Testing Now!
SMT Lead Coplanarity:
20 positions: (0,10mm) .004" max
30 thru 50 positions: (0,15mm) .006" max

Note:
Some sizes, styles and options are non-standard, non-returnable.

MB1 – 1 – NO. OF PINS – 01 – PLATING OPTION – S – CARD SLOT – STABILITY OPTION

NO. OF PINS: –20, –30, –40, –50

PLATING OPTION:

–F = Gold flash on contact, 75µ" (1,91µm) Tin on tail

–L = 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail

–T = 100µ" (2,54µm) Tin

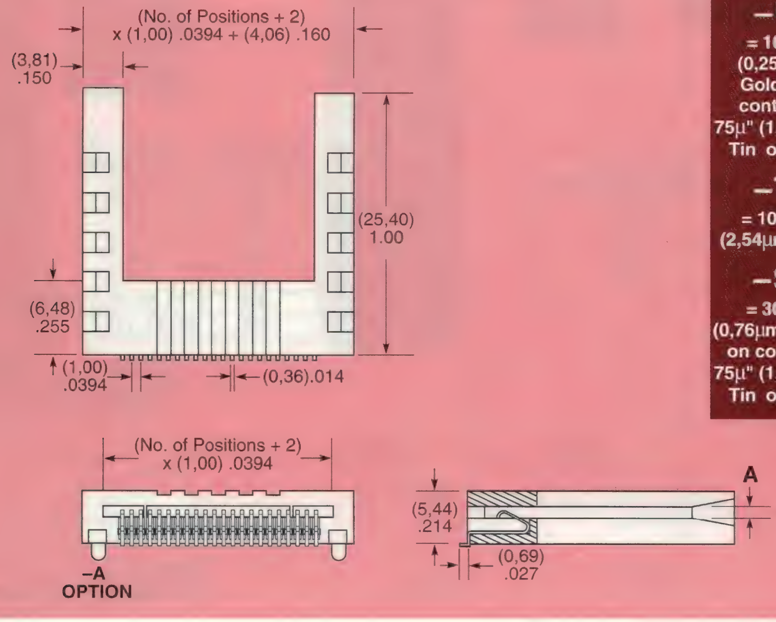
–S = 30µ" (0,76µm) Gold on contact 75µ" (1,91µm) Tin on tail

CARD SLOT: Specify CARD SLOT from chart below.

STABILITY OPTION:

–LC = Locking Clip

–A = Alignment Pin



CARD SLOT	A	MATES WITH BOARD THICKNESS
–01	(1,07) .042	(0,80) .031
–02	(1,83) .072	(1,60) .062

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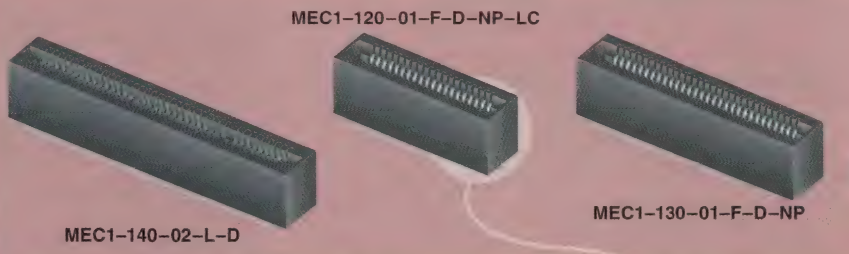
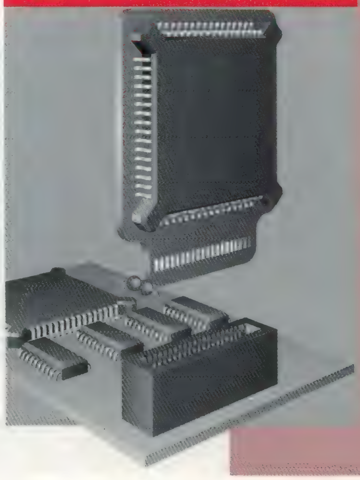


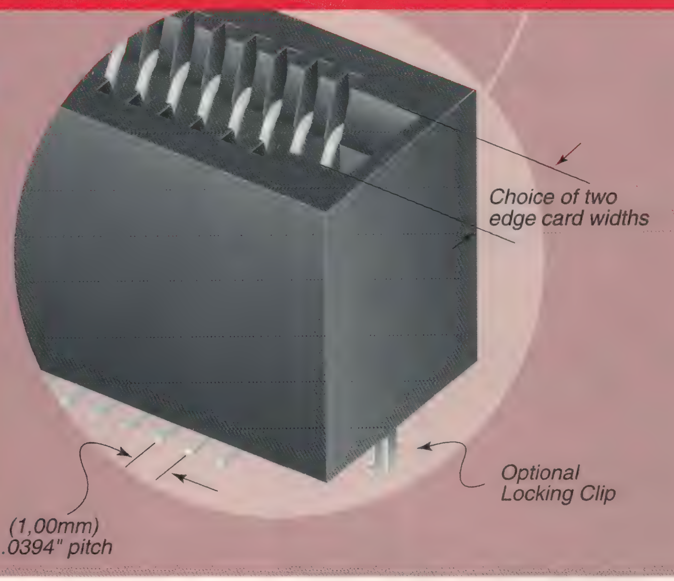
MINI EDGE-CARD SOCKET MEC1 SERIES

Specifications: MEC1

Insulator Material:
Black LCP
Contact Material:
BeCu
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni
Current Rating:
Testing Now!
Max Processing Temp:
230°C for 60 seconds
Insertion Depth:
(5,84mm) .230" to (8,13mm) .320"
SMT Lead Coplanarity:
05-20 = (0,10mm) .004" max
30-70 = (0,15mm) .006" max

APPLICATION





Note: Some sizes, styles and options are non-standard, non-returnable.

MEC1 – 1 POSITIONS PER ROW – BODY STYLE – PLATING OPTION – D – NON-POL OPTION – OTHER OPTION

POSITIONS PER ROW:
05, 20, 30, 40, 50, 60, 70
(Number of contacts per row is less than number of positions per row on polarized versions. See chart for lost positions.)

BODY STYLE:
Specify BODY STYLE from chart below.

PLATING OPTION:

–F
= Gold flash on contact, 75µ" (1,91µm) Tin on tail

–L
= 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail

–S
= 30µ" (0,76µm) Gold on contact 75µ" (1,91µm) Tin on tail

NON-POL OPTION:
Leave blank for polarized version

–NP
= Non-polarized (05 thru 30 positions/row only)

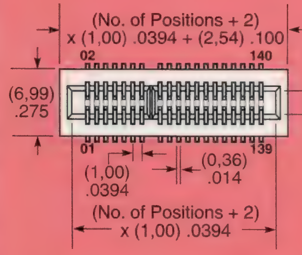
OTHER OPTION:

–LC
= Locking Clip

–A
= Alignment Pin Metal or plastic at Samtec discretion.

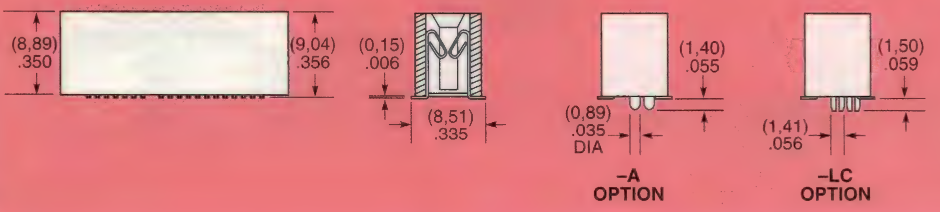
–K
= (7,87mm) .310" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel Packaging



BODY STYLE	A	MATES WITH BOARD THICKNESS
–01	(1,07) .042	(0,80) .031
–02	(1,83) .072	(1,60) .062

POSITIONS PER ROW	POLARIZED POSITIONS
–05	3, 4
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42
–60	31, 32, 63 & 64
–70	53, 54, 115 & 116



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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BOARD TO BOARD

Ultra-Fine Pitch

One-Piece Interfaces (BCA, SEI, OPC) 36-39
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F-198-2

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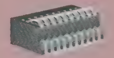
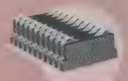
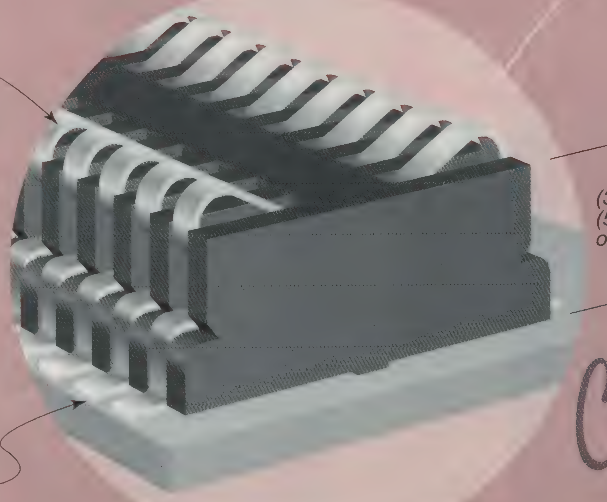




SINGLE ELEMENT INTERFACES

BOARD STACKING INTERFACE

- Direct interface with printed circuit boards
- (1,00mm) .0394" pitch
- 20 to 50 positions
- Choice of single or double row
- (3,00mm) .118", (5,00mm) .197" and (7,00mm) .276" board spacing
- Available Summer 1999
- See also SEI and OPC Series



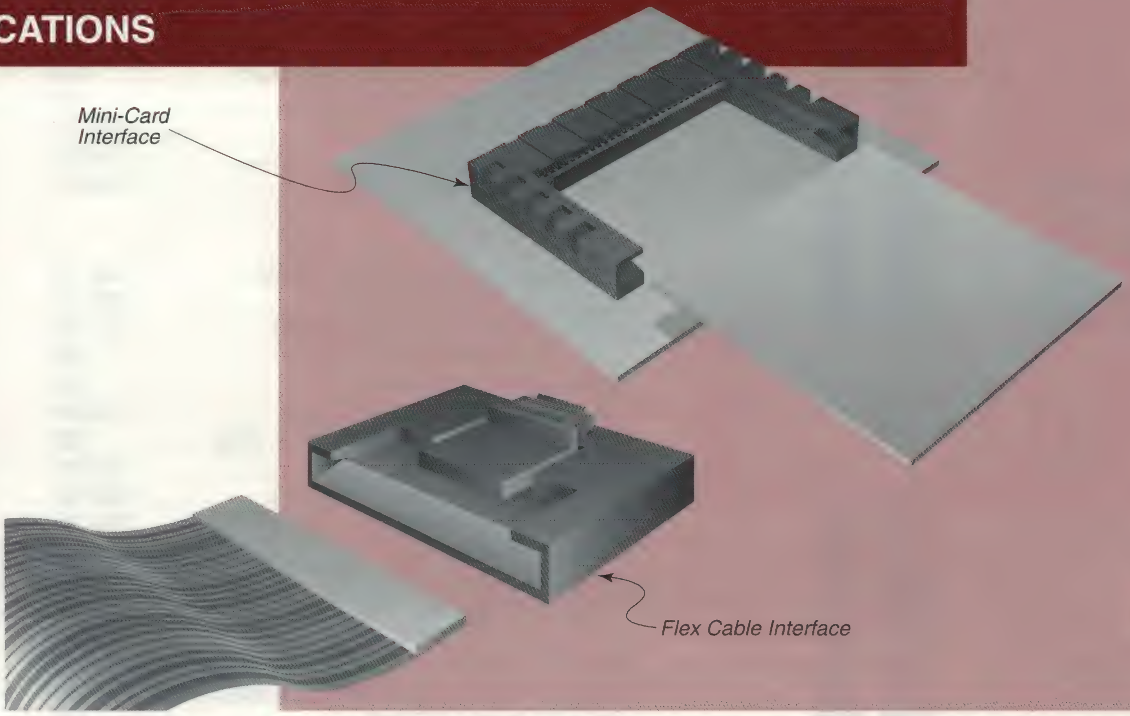
OTHER APPLICATIONS

Flex Cable

- Direct interface with flex cable with stiffener
- (1,00mm) .0394" pitch
- 20 to 50 positions
- Positive locking mechanism retains flex cable in connectors
- FC1 Series available Summer 1999

Mini Card

- Direct interface with (0,80mm) .031" and (1,60mm) .062" mini cards
- (1,00mm) .0394" pitch
- 20 to 50 positions
- Ultra low profile
- MB1 Series available Spring 1999



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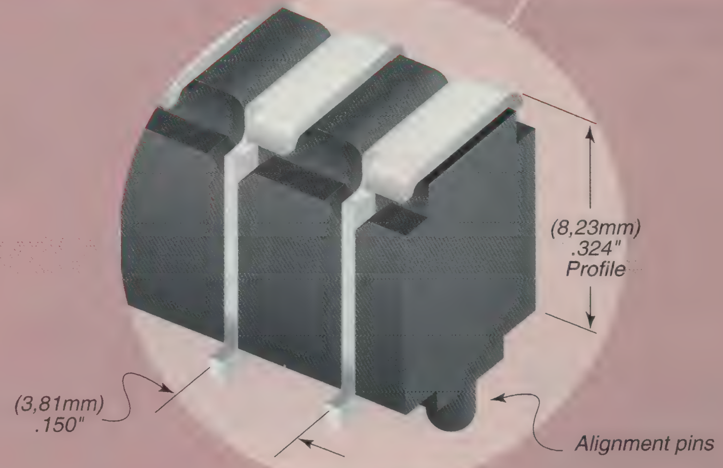
Due to technical progress, all designs, specifications and components are subject to change without notice.

BATTERY CONNECTOR BCA SERIES



SPECIFICATIONS

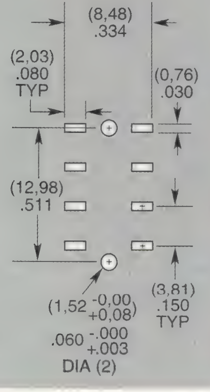
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Brass
Current Rating:
Testing Now!
Operating Temp Range:
-65°C to +125°C
Plating:
Au or Sn over 50µ" (1,27µm) Ni

Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:

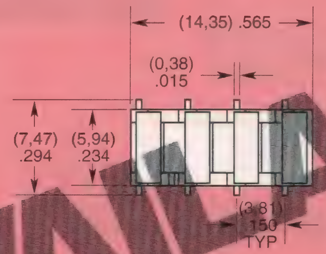
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested PCB Layouts:
Your specific layout may vary

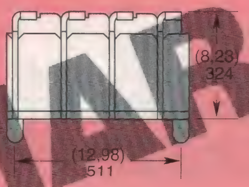


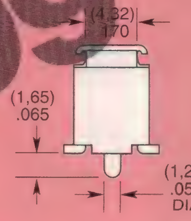
BCA – 1 NO. OF CONTACTS – 01 – PLATING OPTION – ROW SPEC – OTHER SPEC

NO. OF CONTACTS	PLATING OPTION	ROW SPEC	OTHER SPEC
04	–L = 10µ" (0,25µm) Gold on contact area 75µ" (1,91µm) Tin on tail	–S = Single Row	–A = Alignment Pin

AVAILABLE MAR 99







–A OPTION

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Surface **SMT** Mount

ONE-PIECE INTERFACE SEI SERIES

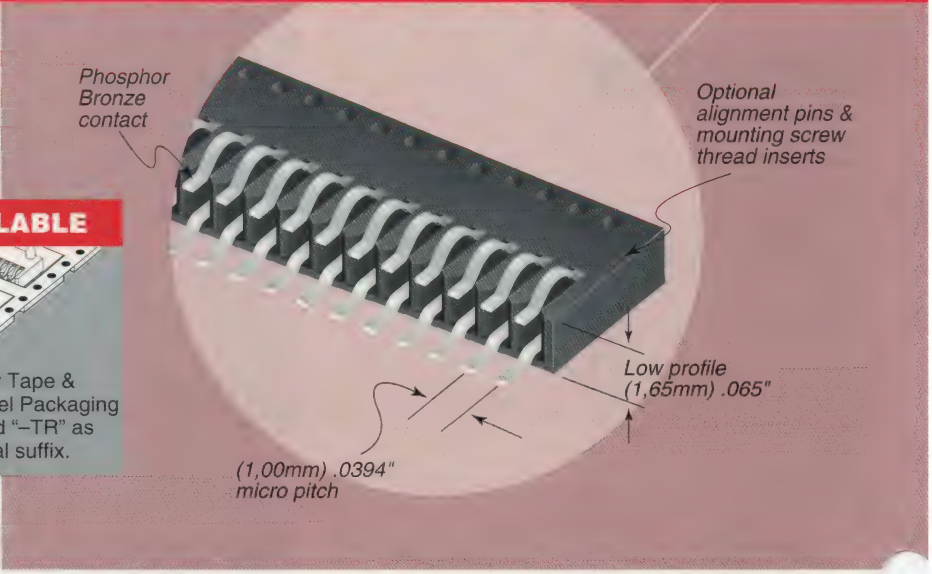
(1,00mm) .0394"

SPECIFICATIONS

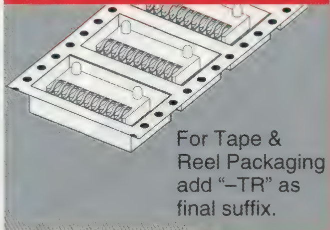
Note: Some lengths, styles and options are non-standard, non-returnable.

Materials:

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Current Rating:
1A @ 80°C ambient
Contact Deflection:
(0,51mm) .020" nominal
Operating Temp Range:
-65°C to +105°C
Plating:
Au over 50μ" (1,27μm) Ni



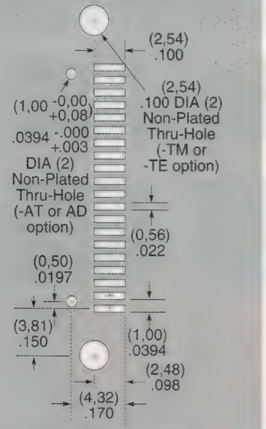
ALSO AVAILABLE



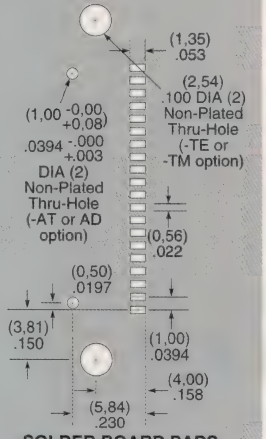
For Tape & Reel Packaging add "–TR" as final suffix.

Processing:

Max Processing Temp:
230°C for 60 seconds
Suggested PCB Layouts
Your specific layout may vary



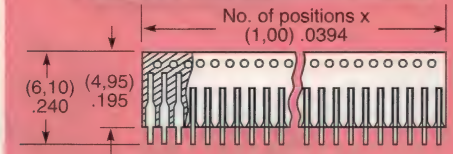
COMPRESSION BOARD PADS
(Gold Plated)



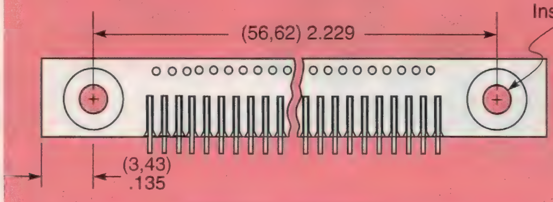
SOLDER BOARD PADS
(Tin or Tin/Lead Plated)

SEI – 1 NUMBER OF PINS – 02 – PLATING OPTION – S – SCREW OPTION – ALIGNMENT OPTION

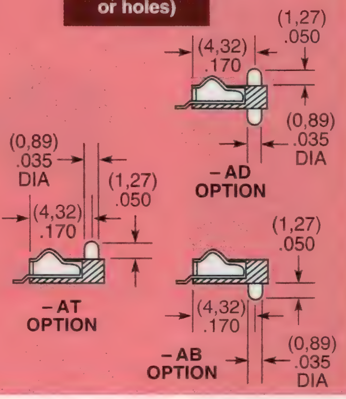
NUMBER OF PINS	PLATING OPTION	SCREW OPTION	ALIGNMENT OPTION
10, 20 & 30 (Call Samtec for other sizes)	**–GF** = 3μ" (0,08μm) Gold flash **–G** = 10μ" (0,25μm) Gold	Leave blank for #2-56 x 1/16" screw thread **–M** = 2,00mm x 0,40mm screw thread **–N** = Non-threaded **–S** = Short Version (No screw down inserts or holes)	Leave blank for no Alignment Pin **–AT** = Alignment Pin Top Side **–AB** = Alignment Pin Bottom Side **–AD** = Alignment Pin Dual Side



– S OPTION



THREADED OPTIONS



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Due to technical progress, all designs, specifications and components are subject to change without notice.

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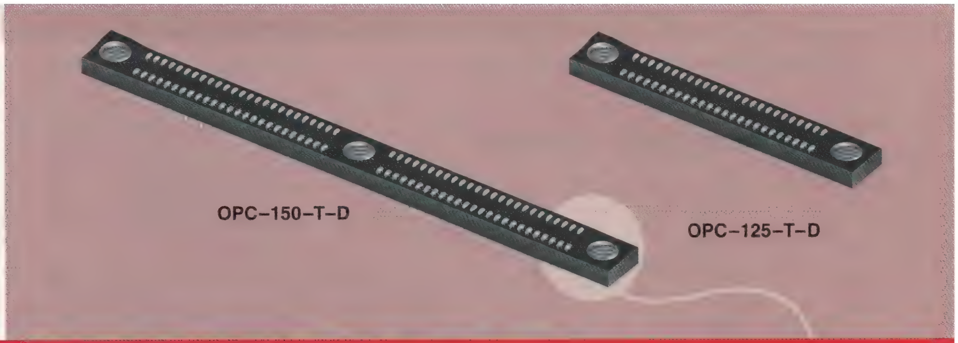


Surface **SMT** Mount

ONE-PIECE INTERFACE OPC SERIES

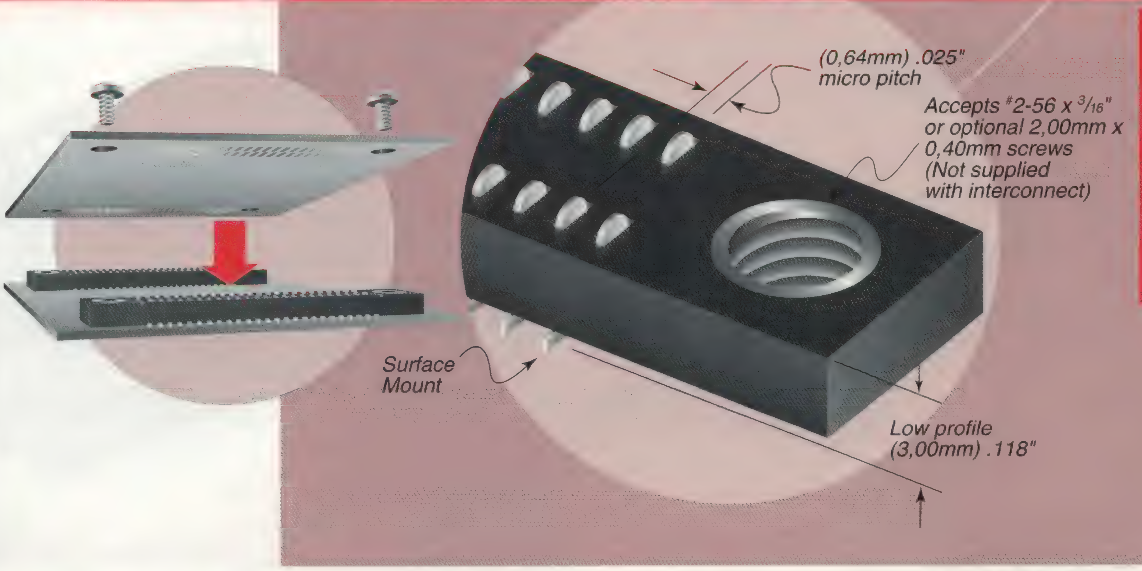
(0,64mm) .025"

SPECIFICATIONS

Materials:

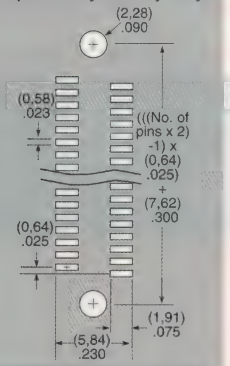
Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Current Rating:
5A @ 80°C ambient
Contact Deflection:
(0,51mm) .020" nominal
Operating Temp Range:
-65°C to +105°C
Plating:
Sn over 50µ" (1,27µm) Ni

Note: Some lengths, styles and options are non-standard, non-returnable.

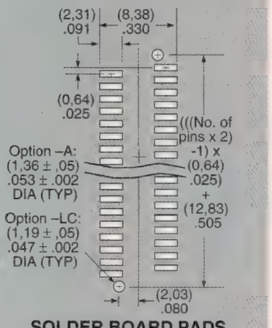


Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
.004" (0,10mm) max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



COMPRESSION BOARD PADS
(Gold Plated for –G, Tin Plated for –T)



SOLDER BOARD PADS
(Tin or Tin/Lead Plated)

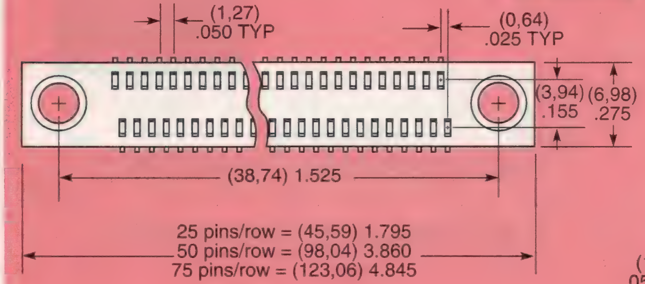
OPC – 1 – NUMBER OF PINS PER ROW – PLATING OPTION – D – SCREW OPTION – OTHER OPTION

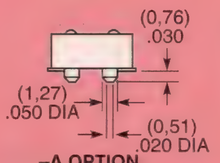
NUMBER OF PINS PER ROW: 10, 15, 20, 25 & 50

PLATING OPTION:
- **–T** = 100µ" (2,54µm) Tin
- **–G** = 10µ" (0,25µm) Gold

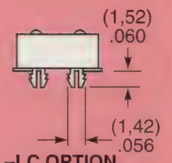
SCREW OPTION:
Leave blank for #2-56 x 3/16" screw thread
- **–M** = 2,00mm x 0,40mm screw thread
- **–N** = Non-threaded

OTHER OPTION:
- **–LC** = Locking Clip
- **–A** = Alignment Pin

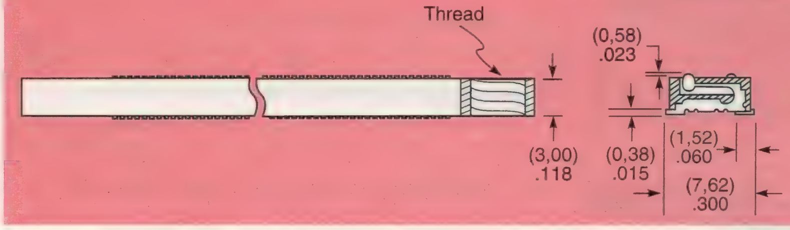




–A OPTION



–LC OPTION



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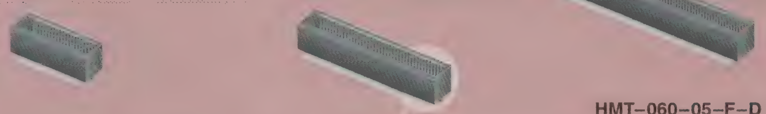


Surface **SMT** Mount

(0,50mm) .0197" HEADER HMT SERIES

(0,50mm) .0197"

SPECIFICATIONS

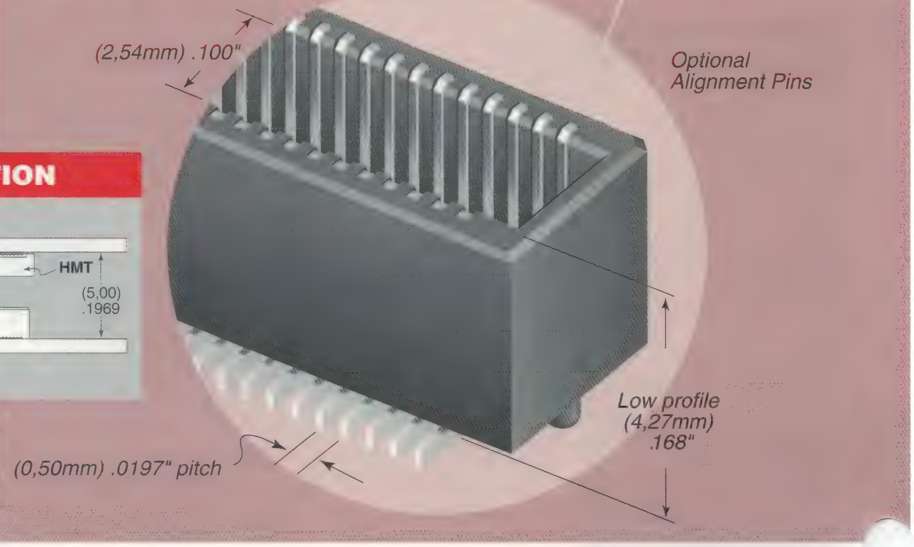
Mates with: HMF

Materials:

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Current Rating:
Testing Now!
Operating Temp Range:
-65°C to +125°
Plating:
Sn or Au over 50μ"
(1,27μm) Ni

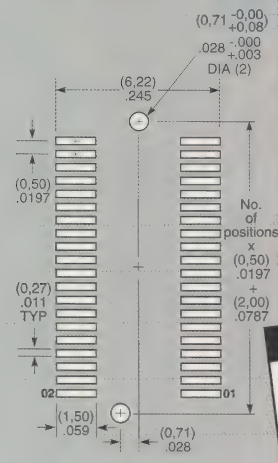
Note:
Some sizes, styles and options are non-standard, non-returnable.

APPLICATION



Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
20 thru 60 pins/row:
(0,10mm) .004" max
80 thru 100 pins/row:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

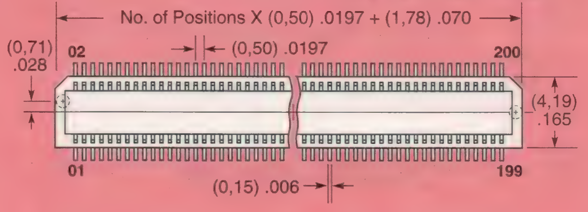


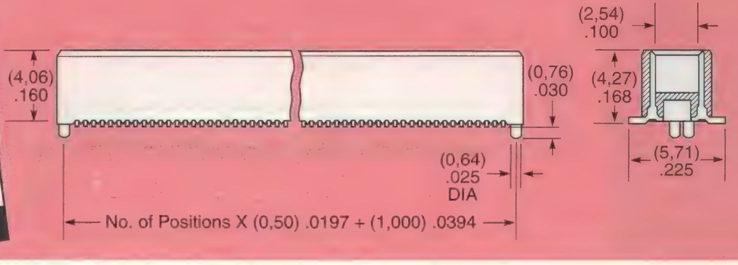
HMT – NO. PINS PER ROW – 05 – PLATING OPTION – D – OTHER OPTION

–020, –040, –060, –080, –100

PLATING OPTION:
- **–F** = Gold flash on post, 75μ" (1,91μm) Tin on tail
- **–L** = 10μ"(0,25μm) Gold on post 75μ" (1,91μm) Tin on tail

OTHER OPTION:
- **–A** = Alignment Pin
- **–TR** = Tape & Reel Packaging





TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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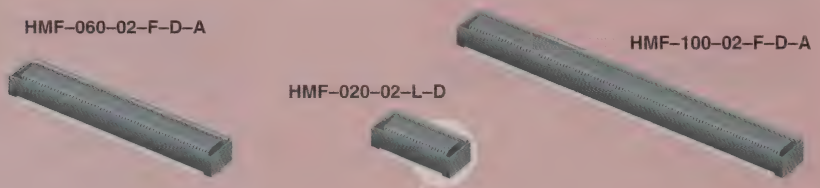
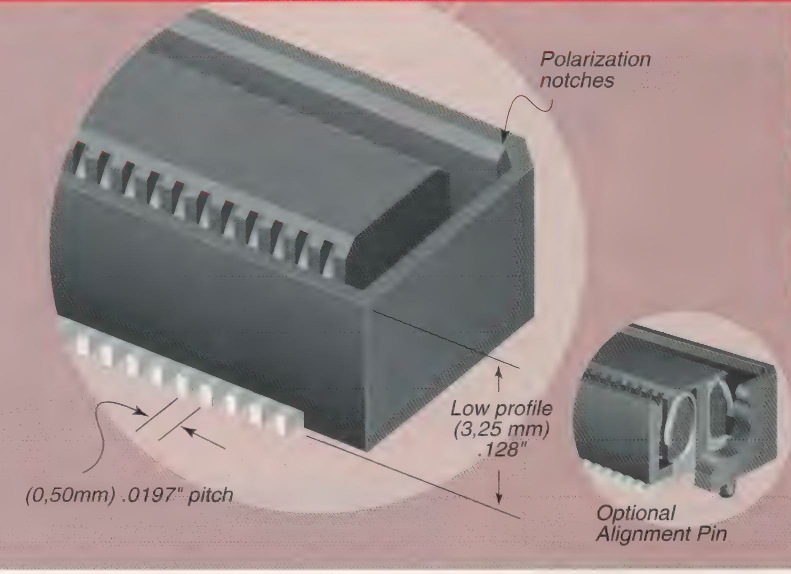


Surface **SMT** Mount

(0,50mm) .0197" SOCKET HMF SERIES

(0,50mm) .0197"



SPECIFICATIONS

Mates with:
HMT

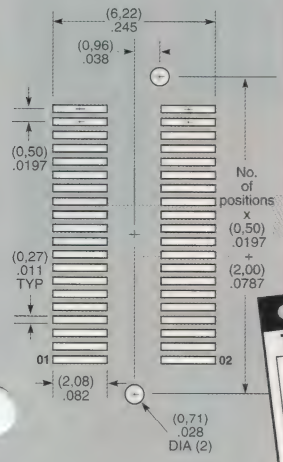
Materials:

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni
Current Rating:
Testing Now!
Contact Resistance:
Testing Now!
Normal Force:
Testing Now!
Withdrawal Force:
Testing Now!
Max Cycles:
Testing Now!

Note:
Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
20 thru 60 pins/row:
(0,10mm) .004" max
80 thru 100 pins/row:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

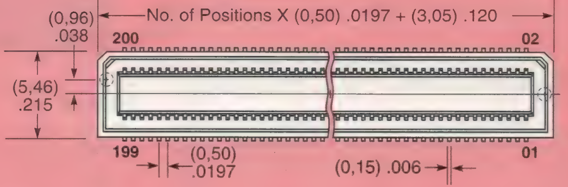


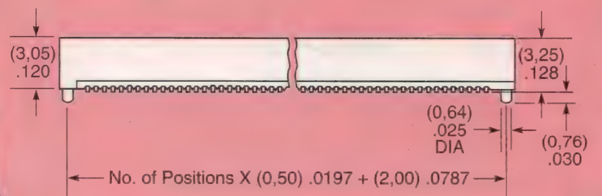
HMF – NO. PINS PER ROW – 02 – PLATING OPTION – D – OTHER OPTION

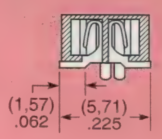
NO. PINS PER ROW:
–020, –040, –060, –080, –100

PLATING OPTION:
–F
= Gold flash on post, 75µ" (1,91µm) Tin on tail
–L
= 10µ"(0,25µm) Gold on post 75µ" (1,91µm) Tin on tail

OTHER OPTION:
–A
= Alignment Pin
–TR
= Tape & Reel Packaging







TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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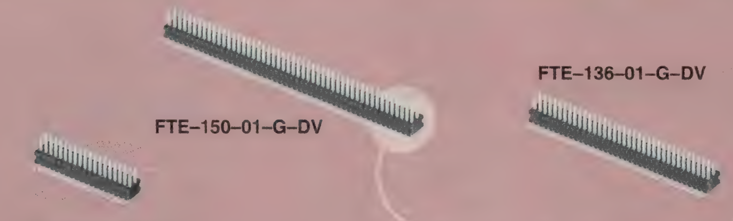
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

(0,80mm) .0315" HEADER FTE SERIES

(0,80mm) .0315"

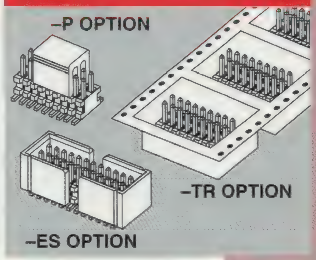
SPECIFICATIONS

Materials:
Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: .75 A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni

Note: Some lengths, styles and options are non-standard, non-returnable.

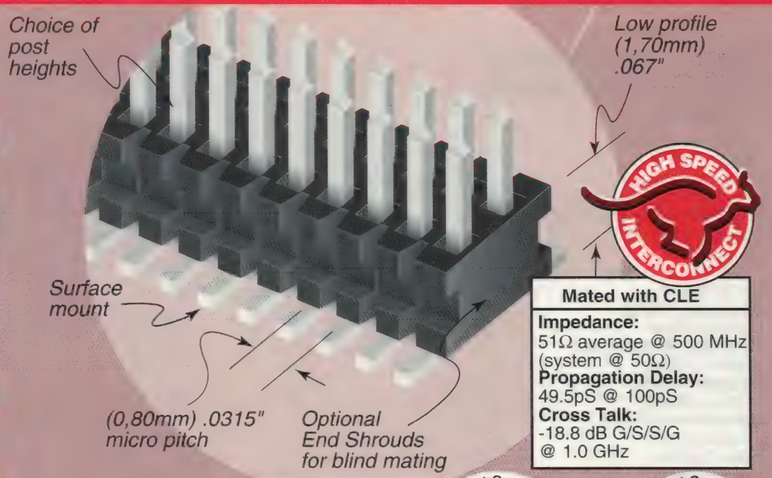
Mates with: CLE

OPTIONS



APPLICATION SPECIFIC OPTION

End shrouds with board locks and Gold flash plating available. Call Samtec.



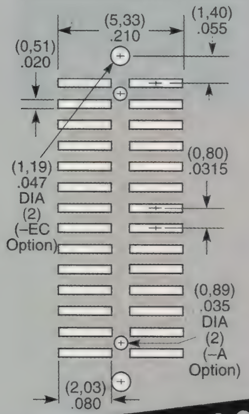
HIGH SPEED INTERCONNECT

Mated with CLE
Impedance: 51Ω average @ 500 MHz (system @ 50Ω)
Propagation Delay: 49.5pS @ 100pS
Cross Talk: -18.8 dB G/S/S/G @ 1.0 GHz

COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10
COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

FTE – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – DV – FLEX-SHROUD OPTIONS – OTHER OPTION

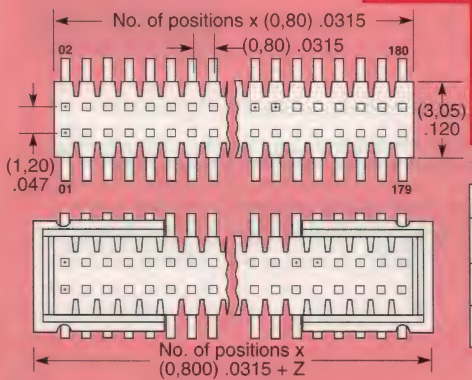
05 thru 90

PLATING OPTION:
–G = 10µ" (0,25µm) Gold on post, Gold flash on balance

LEAD STYLE:
–01 = .075" (1,90mm) post
–02 .175" (4,44mm) post (Pass Thru & Bottom Mount only)

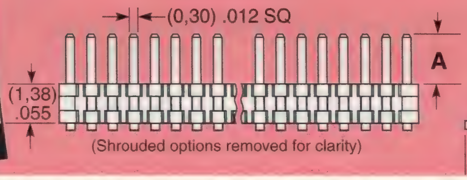
FLEX-SHROUD OPTIONS (Style –01 only) (11 pins/row minimum):
–ES = End Shroud
–EC = End Shroud with Locking Clips
–EP = End Shroud with Guide Posts

OTHER OPTION:
–A = Alignment Pin (5 positions minimum) (Metal or plastic at Samtec discretion)
–P = Pick & Place Pad (8 positions minimum)
–TR = Tape & Reel Packaging

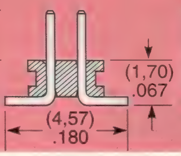


OPTION	Z
–ES	(1,57) .062
–EC	(4,11) .162
–EP	(5,51) .217

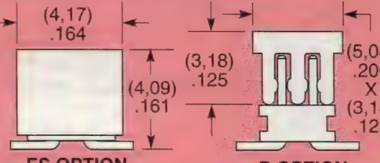
LEAD STYLE	A
–01	(1,90) .075
–02	(4,45) .175



(Shrouded options removed for clarity)



–ES OPTION



–P OPTION

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F-198-2

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POPULAR CONNECTORS Ship in 3 DAYS

Surface **SMT** Mount

(0,80mm) .0315" SOCKET CLE SERIES

SPECIFICATIONS

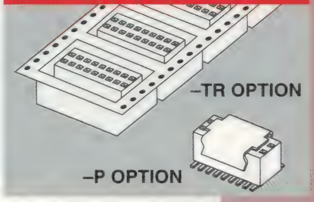
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Beryllium Copper
Current Rating:
.75A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50μ" (1,27μm) Ni
Contact Resistance:
15mΩ max (initial)
Insertion Depth:
Top Entry = (1,73mm) .068" to (3,18mm) .125" with (0,38mm) .015" wipe, or pass-through
Bottom Entry = (3,23mm) .127" minimum plus board thickness
Insertion Force:
2.0oz (0,56N)
Normal Force:
75 grams (0,73N)
Withdrawal Force:
1.2oz (0,33N)
Max Cycles:
100 with 10μ" (0,25μm) Au

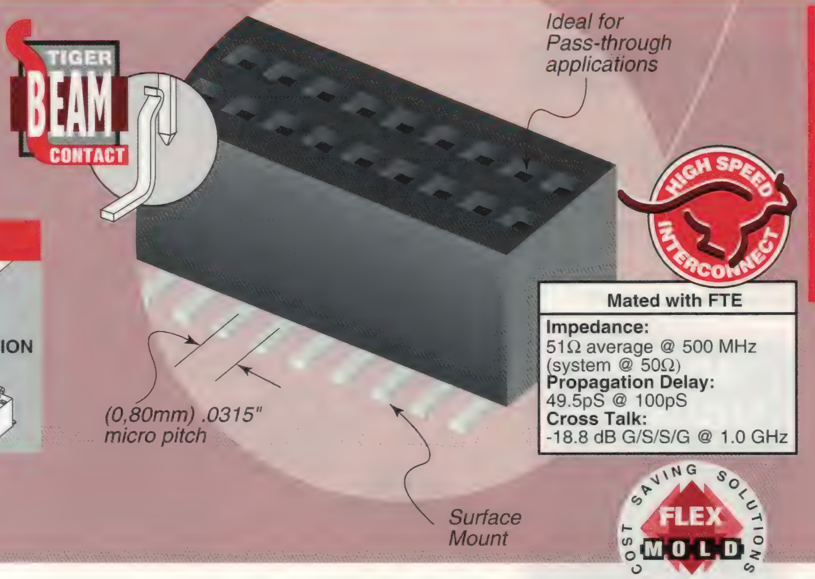
Mates with:
FTE, AW

Note: Some lengths, styles and options are non-standard, non-returnable.

OPTIONS



TIGER BEAM CONTACT



HIGH SPEED INTERCONNECT

(0,80mm) .0315"

Mated with FTE
Impedance:
51Ω average @ 500 MHz (system @ 50Ω)
Propagation Delay:
49.5pS @ 100pS
Cross Talk:
-18.8 dB G/S/S/G @ 1.0 GHz

COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

CLE – 1 NO. PINS PER ROW – 01 – PLATING OPTION – DV – OPTIONS

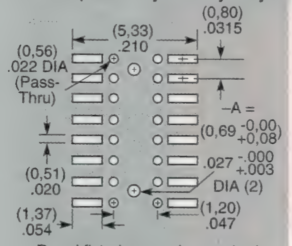
05 thru 90

PLATING OPTION:
–G = 10μ" (0,25μm) Gold

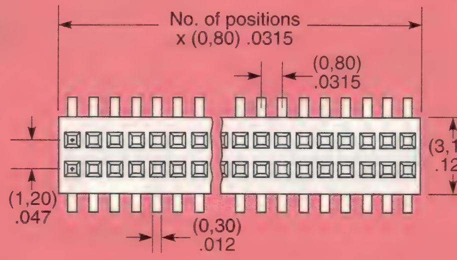
OPTIONS:
–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion.
–P = Pick & Place Pad (8 positions minimum)
–K = (3,50mm) .138" DIA Polyimide film Pick & Place Pad (8 positions minimum)
–TR = Tape & Reel Packaging

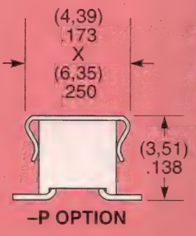
Processing:

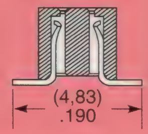
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
05-65 = (0,10mm) .004" max
66-90 = (0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



Board fixturing may be required to assure proper alignment for pass-through applications.







TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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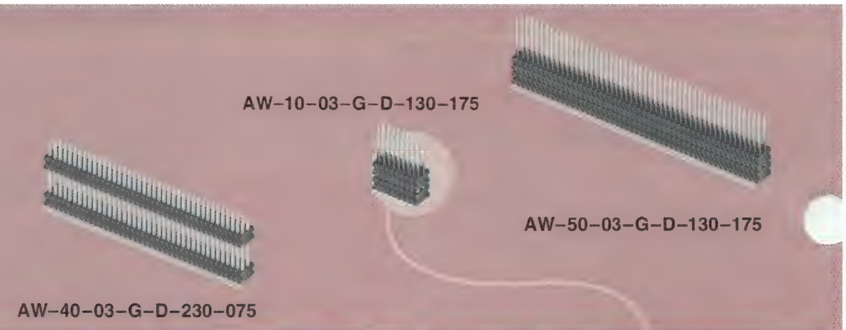
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

(0,80mm) .0315" STACKER AW SERIES

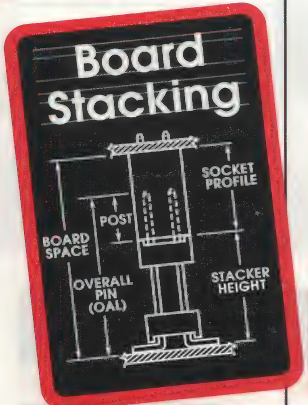
(0,80mm) .0315"

SPECIFICATIONS

Mates with: CLE

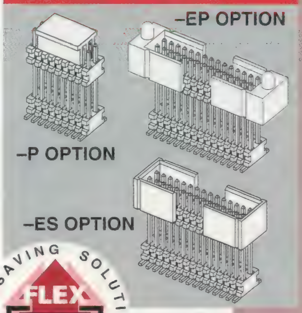
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
.75A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50µ" (1,27µm) Ni

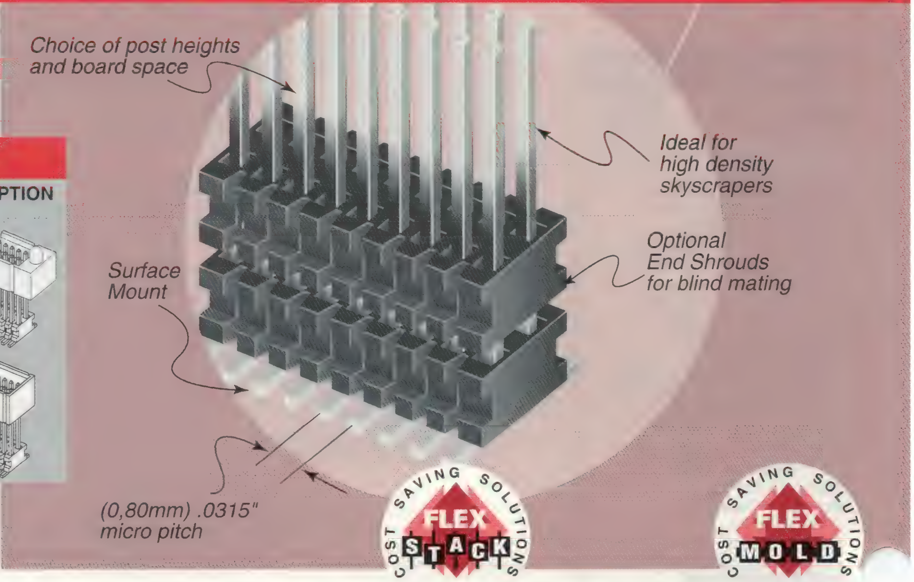


Note: Some lengths, styles and options are non-standard, non-returnable.

OPTIONS



COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10



COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

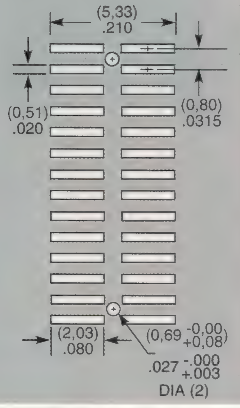
COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

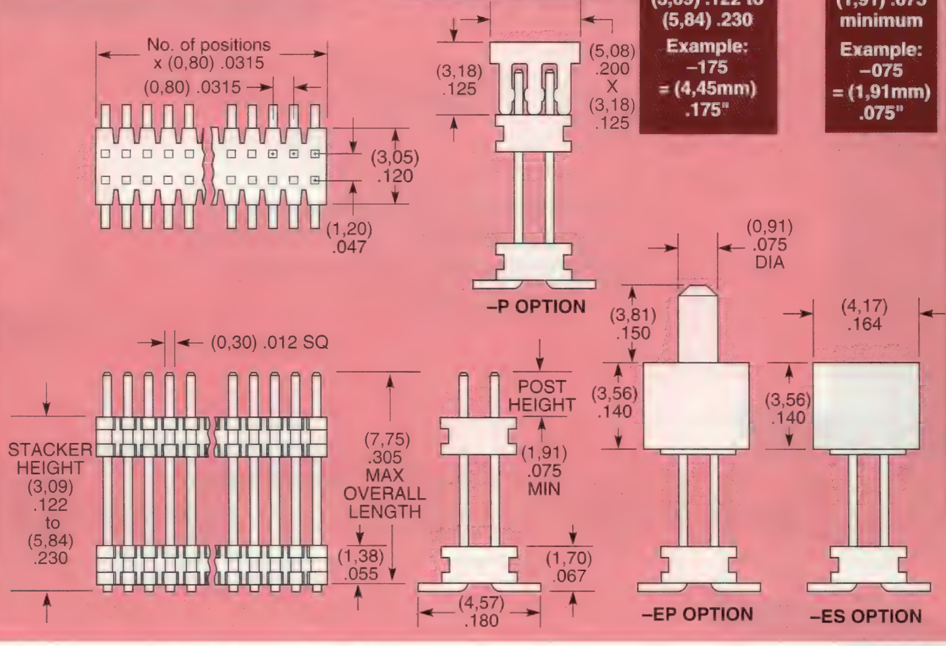
AW – NO. PINS PER ROW – 03 – PLATING OPTION – D – STACKER HEIGHT – POST HEIGHT – OPTION

NO. PINS PER ROW	PLATING OPTION	STACKER HEIGHT	POST HEIGHT	OPTION
05 thru 90	–G = 10µ" (0,25µm) Gold	–"XXX" = Stacker Height (in inches) (3,09) .122 to (5,84) .230 Example: –175 = (4,45mm) .175"	–"XXX" = Post Height (in inches) (1,91) .075 minimum Example: –075 = (1,91mm) .075"	–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion. –ES = End Shroud (11 pins/row minimum (1,91mm) .075" post only) –EP = End Shroud with Guide Post (11 pins/row minimum) –P = Pick & Place Pad (8 positions minimum)

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary





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Due to technical progress, all designs, specifications and components are subject to change without notice.

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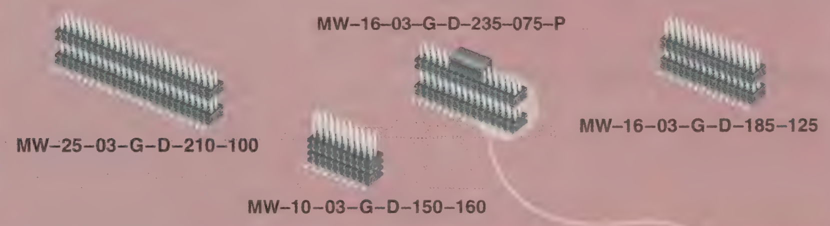
POPULAR CONNECTORS Ship in 3 DAYS



Surface **SMT** Mount

(1,00mm) .0394" STACKER MW SERIES

SPECIFICATIONS

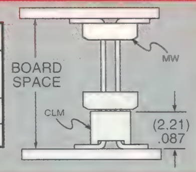
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.5A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over
50µ"(1,27µm) Ni

Mates with:
CLM, MLE, QCLM

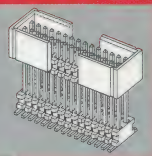
APPLICATIONS

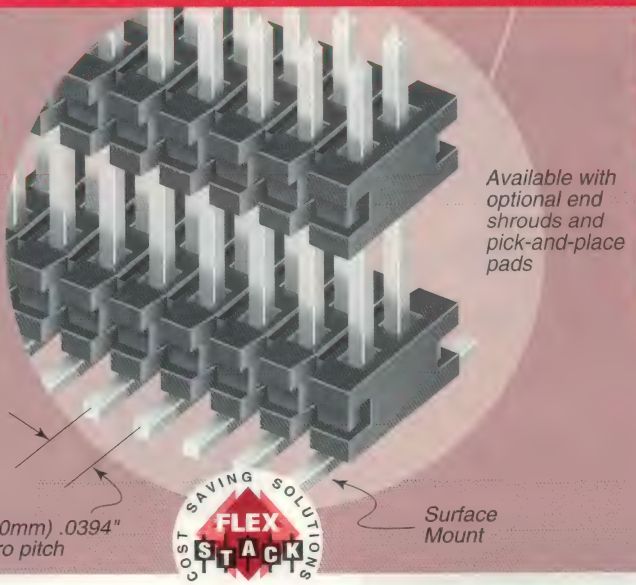
EXAMPLES		
Lead Style		BOARD SPACE
MW	CLM	
-163-055	– 02	(6,35) .250
-233-055		(8,13) .320



APPLICATION SPECIFIC OPTION

Alignment pins, end shrouds, and end shrouds with guide posts available. Call Samtec.

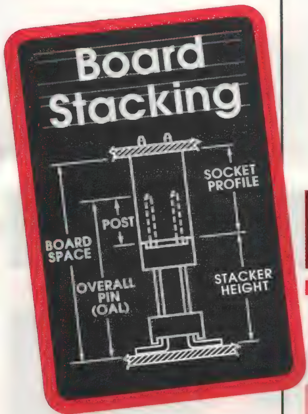




(1,00mm) .0394"

COST SAVING SOLUTIONS FLEX STACK
SEE PAGE 7

Board Stacking



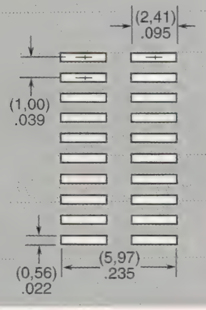
Note: This Series is non-standard, non-returnable.

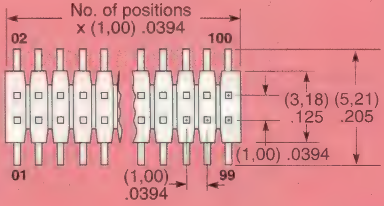
MW – NO. PINS PER ROW – 03 – PLATING OPTION – D – STACKER HEIGHT – POST HEIGHT – OPTION

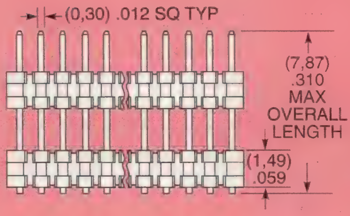
- **NO. PINS PER ROW:** 02 thru 50
- **PLATING OPTION:** –G = 10µ" (0,25µm) Gold
- **STACKER HEIGHT:** –"XXX" = Stacker Height (in inches); (2,41) .095 to (6,48) .255; Example: –255 = (6,48mm) .255"
- **POST HEIGHT:** –"XXX" = Post Height (in inches); (1,40) .055 minimum; Example: –055 = (1,40) .055"
- **OPTION:** –P = Pick & Place Pad (7 positions minimum)

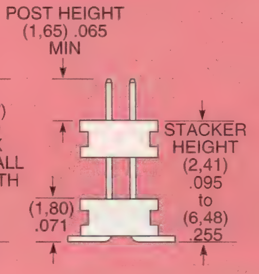
Processing:

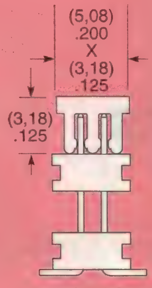
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary











–P OPTION

F-198-2

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POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

MICRO HEADERS FTMH, FTM, QFTM SERIES

(1,00mm) .0394"

SPECIFICATIONS

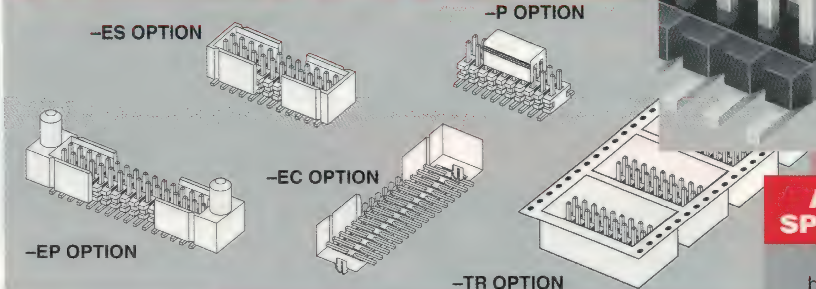
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.5A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni

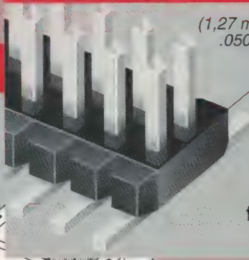
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
CLM, MLE, QCLM

OPTIONS



ALSO AVAILABLE



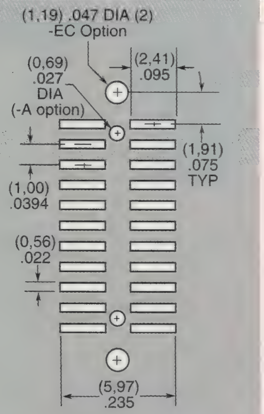
Ultra low profile option available. End Shrouds available. Call for FTM Series specifications.

APPLICATION SPECIFIC OPTION

End shrouds with board locks available. Call Samtec.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



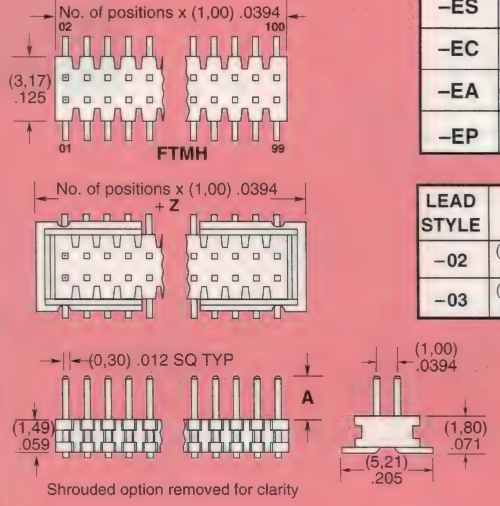
TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE –

FTMH = Standard Strip
FTM = Low Profile Strip
QFTM = Quad Row

05 thru 50

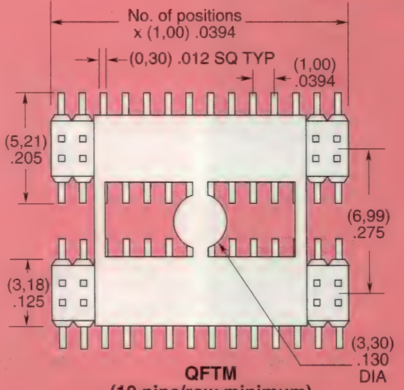
–02 = .075 (1,91) Post (Mates with MLE)

–03 = .065 (1,65) Post (Mates with CLM & QCLM)



OPTION	Z
–ES	(1,57) .062
–EC	(4,06) .160
–EA	(4,06) .160
–EP	(5,49) .216

LEAD STYLE	A
–02	(1,91) .075
–03	(1,65) .065



QFTM
(10 pins/row minimum)

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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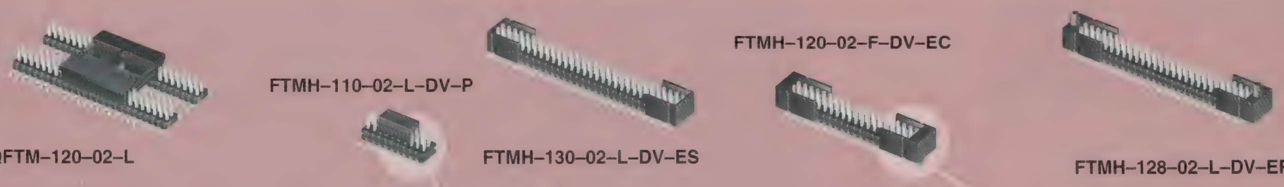
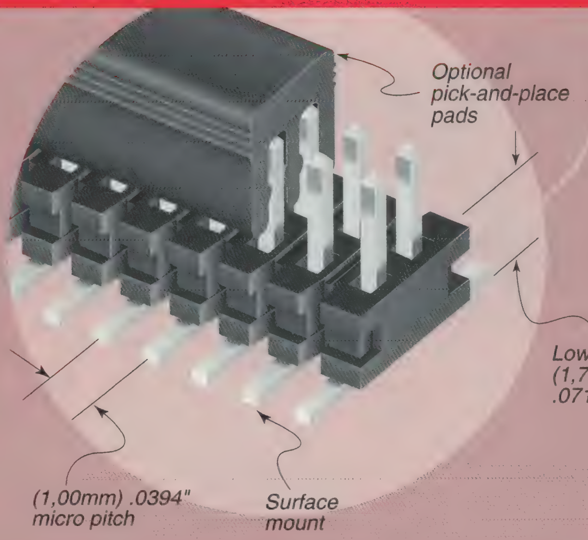
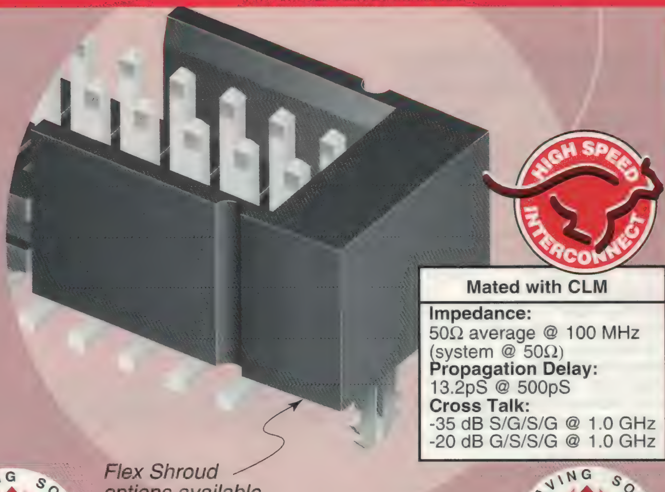
Due to technical progress, all designs, specifications and components are subject to change without notice.







Mated with CLM

Impedance:
50Ω average @ 100 MHz
(system @ 50Ω)
Propagation Delay:
13.2pS @ 500pS
Cross Talk:
-35 dB S/G/S/G @ 1.0 GHz
-20 dB G/S/S/G @ 1.0 GHz

COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

– **PLATING OPTION** – **DV** – **FLEX SHROUD OPTIONS** (FTMH only) 9 pins/row minimum – **OTHER OPTIONS**

PLATING OPTION

–F
= Gold flash on post, 75µ" (1,91µm) Tin on tail

–L
= 10µ"(0,25µm) Gold on post 75µ" (1,91µm) Tin on tail

DV

Leave blank for QFTM

FLEX SHROUD OPTIONS

–ES
= End Shroud

–EC
= End Shroud with Locking Clip

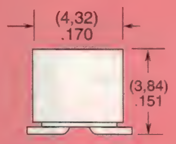
–EP
= End Shroud with Guide Post (Use only when mating with CLM)

OTHER OPTIONS

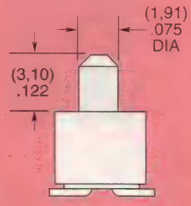
–A
= Alignment Pin (3 positions minimum) (Metal or plastic at Samtec discretion) (FTMH only)

–P
= Pick & Place Pad (FTMH & FTM only) (7 positions minimum)

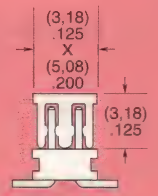
–TR
= Tape & Reel



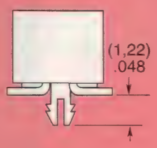
–ES OPTION



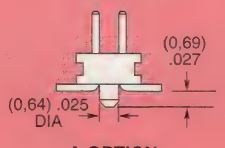
–EP OPTION



–P OPTION



–EC OPTION



–A OPTION

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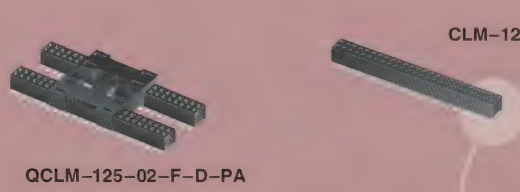


POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

(1,00mm) .0394" SOCKET CLM, QCLM SERIES

(1,00mm) .0394"

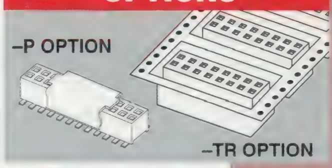
SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 1.5A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: Top Entry = (1,40mm) .055" min, Bottom Entry = (2,21mm) .087" minimum (Add board thickness for correct post OAL)
Insertion Force: 1.5oz (0,42N) average
Normal Force: 40 grams (0,39N) average
Withdrawal Force: .75oz (0,21N) average
Max Cycles: 100 with 10µ" (0,25µm) Au

Mates with: FTM, FTMH, MW, QFTM

OPTIONS

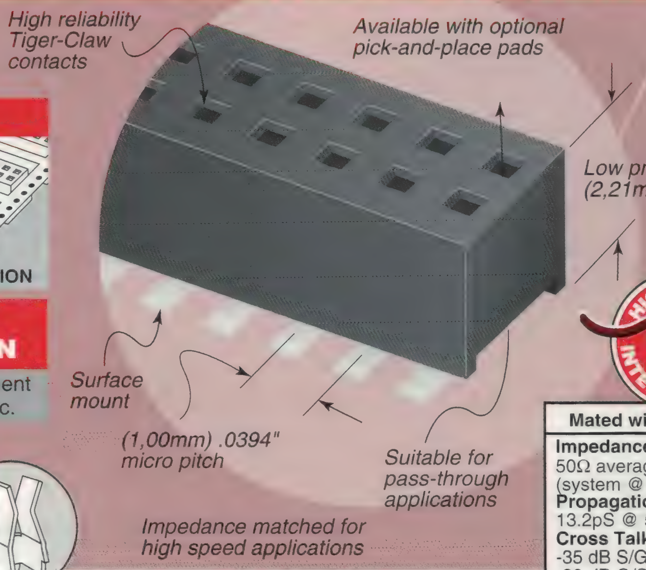


APPLICATION SPECIFIC OPTION

Polarized option and alignment pins available. Call Samtec.

TIGER CLAW CONTACT

Note: Some lengths, styles and options are non-standard, non-returnable.

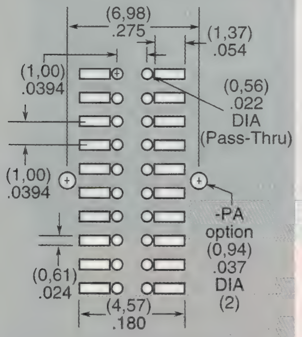


HIGH SPEED INTERCONNECT

Mated with FTM/FTMH
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 13.2pS @ 500pS
Cross Talk:
-35 dB S/G/S/G @ 1.0 GHz
-20 dB G/S/S/G @ 1.0 GHz

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity:
02-35 = (0,10mm) .004" max
36-50 = (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary



Board fixturing may be required to assure proper alignment for pass-through applications.

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

TYPE STRIP	–	1	–	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	D	–	CLM OPTIONS

TYPE STRIP
- **CLM** = Double Row
- **QCLM** = Quad Row

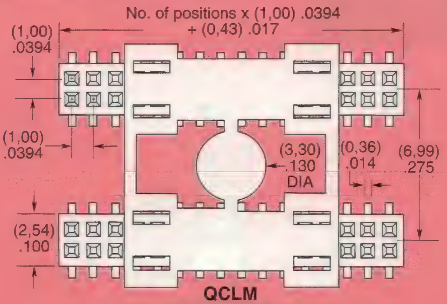
NO. PINS PER ROW
- 02 thru 50

PLATING OPTION
- **–F** = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin on tail
- **–L** = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail

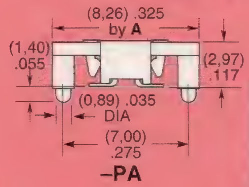
D
- Leave blank for QCLM

CLM OPTIONS
- **–BE** = Bottom Entry (Required for bottom entry applications)
- **–P** = Pick & Place Pad (7 positions minimum) Not always necessary for auto placement. See Flex Processing.
- **–K** = (3,50mm) .138" DIA Polyimide film Pick & Place Pad (7 positions minimum)
- **–PA** = Pick & Place Pad with integral Alignment Pin
- **–TR** = Tape & Reel

COST SAVING SOLUTIONS FLEX PROCESSING SEE PAGE 17

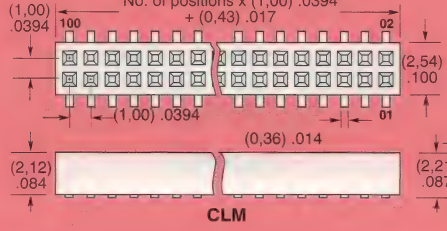


QCLM
(10 pins/row minimum)

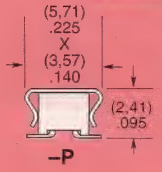


–PA

PIN/ROW	A
04-15	(3,56) .140
16-50	(7,11) .280



CLM



–P

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F-198-2

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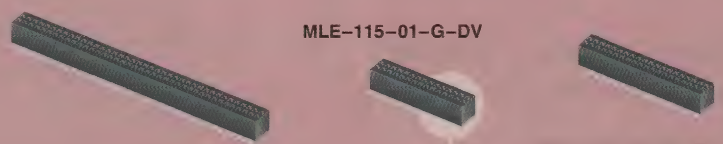


Surface **SMT** Mount

STANDARD SOCKET MLE SERIES

(1,00mm) .0394"

SPECIFICATIONS

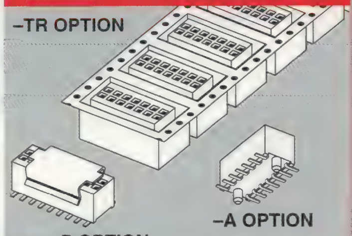
Materials:

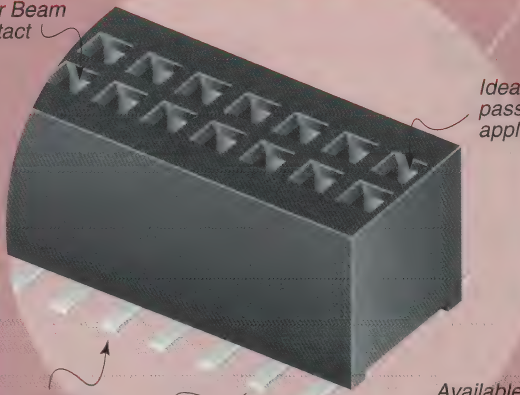
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Beryllium Copper
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 10µ" (0,25µm) Ni
Insertion Depth:
(1,63mm) .064" to (3,18mm) .125" with (0,38mm) .015" wipe, or pass-through
Insertion Force:
2.70oz (0,75N) average
Withdrawal Force:
0.50oz (0,14N) average

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: FTM, FTMH, MW

OPTIONS



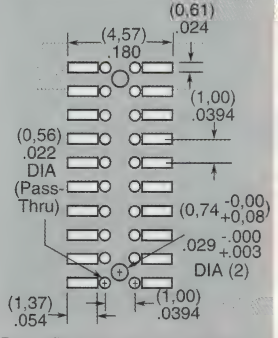


SAVING COST SOLUTIONS FLEX MOLD

SEE PAGE 8

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
15-26 = (0,10mm) .004" max
27-50 = (0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



Board fixturing may be required to assure proper alignment for pass-through applications.

MLE – 1 NO. PINS PER ROW – 01 – PLATING OPTION – DV – OPTIONS

NO. PINS PER ROW: **05 thru 50**

PLATING OPTION: **–G** = 10µ" (0,25µm) Gold

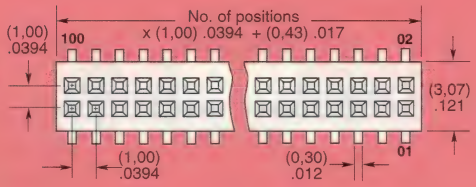
OPTIONS:

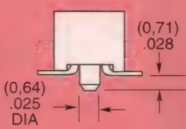
–A = Alignment Pin (3 positions minimum) Metal or plastic at Samtec discretion.

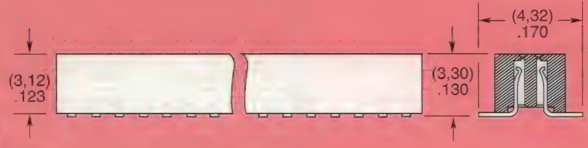
–P = Pick & Place Pad (7 positions minimum)

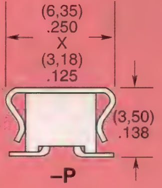
–K = (3,50mm) .138" DIA Polyimide film Pick & Place Pad (7 positions minimum)

–TR = Tape & Reel Packaging









TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

POLARIZED SOCKET BKS SERIES

(1,00mm) .0394"

SPECIFICATIONS

Materials:

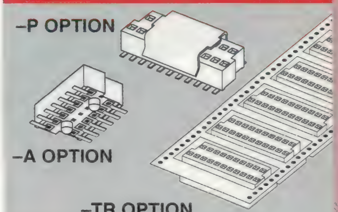
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 1.5A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: (1,40mm) .055" minimum
Insertion Force: 1.5oz (0,42N) average
Normal Force: 40 grams (0,39N) average
Withdrawal Force: .75oz (0,20N) average
Max Cycles: 100 with 10µ" (0,25µm)Au

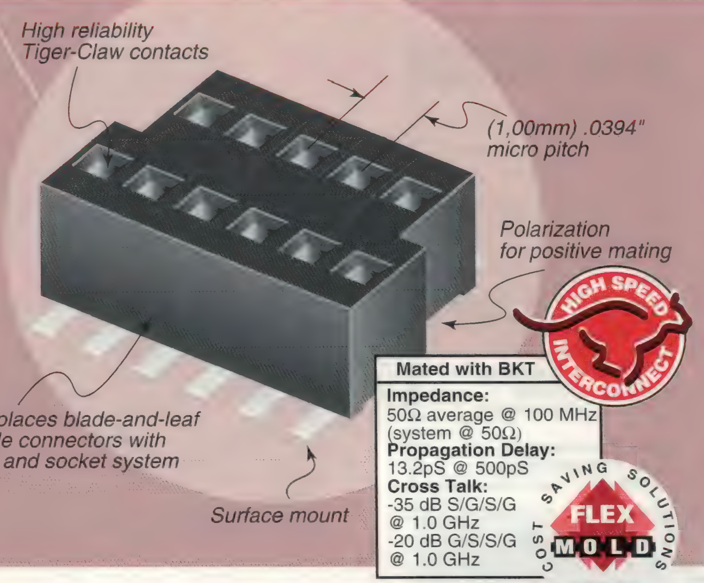
Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with: BKT

TIGER CLAW CONTACT

OPTIONS





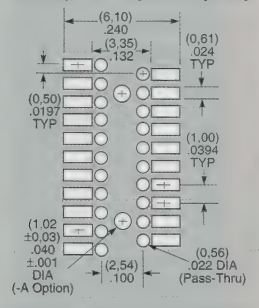
HIGH SPEED INTERCONNECT

Mated with BKT
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 13.2pS @ 500pS
Cross Talk: -35 dB S/G/S/G @ 1.0 GHz; -20 dB G/S/S/G @ 1.0 GHz

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



Board fixturing may be required to assure proper alignment for pass-through applications.

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

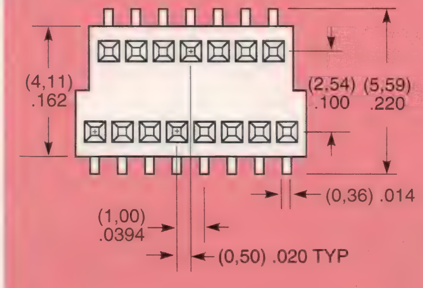
BKS – 1 – NO. OF POSITIONS – 01 – PLATING OPTION – V – OPTIONS

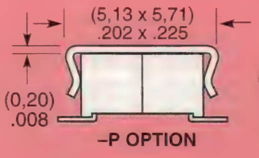
NO. OF POSITIONS: **07 thru 69** (Odd lead counts only)

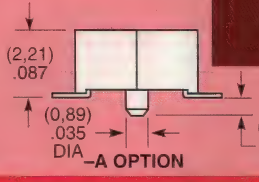
PLATING OPTION:
- **–L** = Pre-plated 10µ"(0,25µm) Gold contact, 100µ" (2,54µm) Tin on tail
- **–F** = Pre-plated Gold flash on contact, 100µ" (2,54µm) Tin on tail

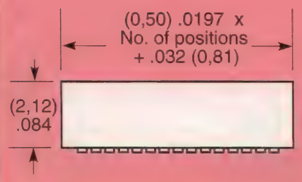
OPTIONS:
- **–P** = Pick and Place Pad (13 positions minimum) Not always necessary for auto placement. See Flex Processing.
- **–A** = Alignment Pin (Metal or plastic at Samtec discretion) (11 positions minimum)
- **–TR** = Tape & Reel Packaging

COST SAVING SOLUTIONS FLEX PROCESSING SEE PAGE 17



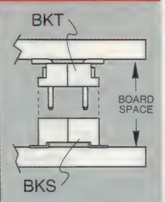






APPLICATIONS

Terminal Strip	Socket Strip	Board Space
BKT-1XX-01-X-V	BKS-1XX-01-X-V	(4,14) .163
BKT-1XX-02-X-V	BKS-1XX-01-X-V	(4,50) .177
BKT-1XX-03-X-V	BKS-1XX-01-X-V	(5,00) .197
BKT-1XX-04-X-V	BKS-1XX-01-X-V	(6,00) .236
BKT-1XX-05-X-V	BKS-1XX-01-X-V	(7,00) .276



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SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 SAMTEC JAPAN • Tel: 81-424-42-8318 • Fax: 81-424-42-8319

Due to technical progress, all designs, specifications and components are subject to change without notice.

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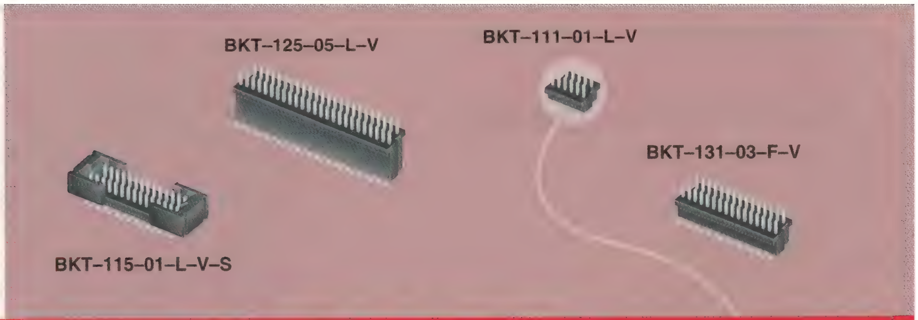


POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

POLARIZED SOCKET BKT SERIES

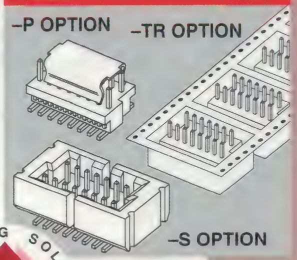
SPECIFICATIONS

Materials:

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.5A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Mates with:
BKS

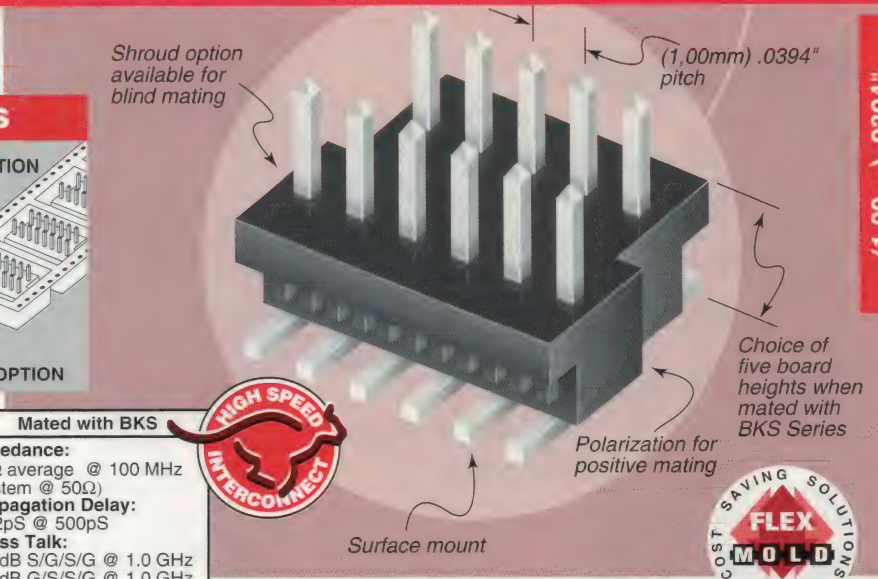
OPTIONS



COST SAVING SOLUTIONS FLEX SHROUD
SEE PAGE 10

Mated with BKS
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 13.2pS @ 500pS
Cross Talk: -35 dB S/G/S/G @ 1.0 GHz; -20 dB G/S/S/G @ 1.0 GHz

HIGH SPEED INTERCONNECT



COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

Note: Some sizes, styles and options are non-standard, non-returnable.

BKT – 1 NO. OF POSITIONS – BASE HEIGHT – PLATING OPTION – V – OPTIONS

NO. OF POSITIONS: 07 thru 69 (Odd lead counts only)

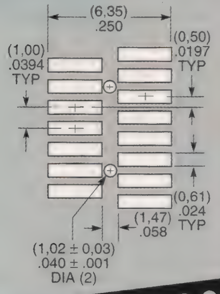
BASE HEIGHT: Specify BODY STYLE from chart

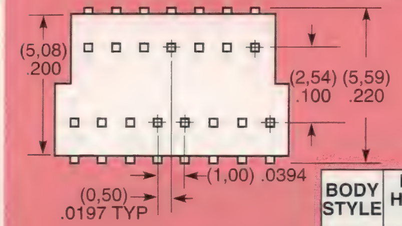
PLATING OPTION:
- **–L** = 10µ" (0,25µm) Gold on post, 100µ"(2,54µm) Tin on tail
- **–F** = Gold flash on post, 100µ" (2,54µm) Tin on tail

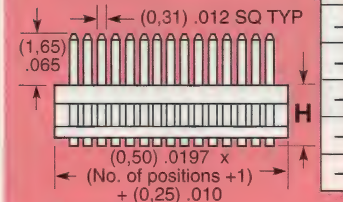
OPTIONS:
- **–S** = Shrouded (15 positions minimum)
- **–P** = Pick & Place Pad (13 positions minimum)
- **–A** = Alignment Pin Metal or plastic at Samtec discretion. (11 positions minimum)
- **–TR** = Tape & Reel Packaging

Processing:

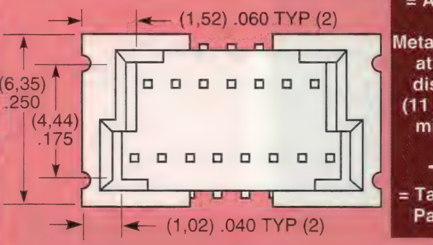
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary





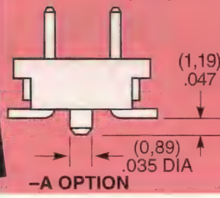


BODY STYLE	BASE HEIGHT H	BOARD SPACE (mated with BKS)
–01	(1,93) .076	(4,14) .163
–02	(2,29) .090	(4,50) .177
–03	(2,79) .110	(5,00) .197
–04	(3,78) .149	(6,00) .236
–05	(4,80) .189	(7,00) .276

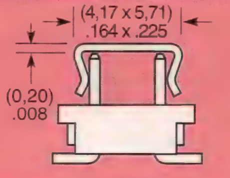


–S OPTION

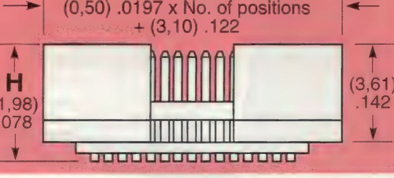
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.



–A OPTION



–P OPTION



F-198-2

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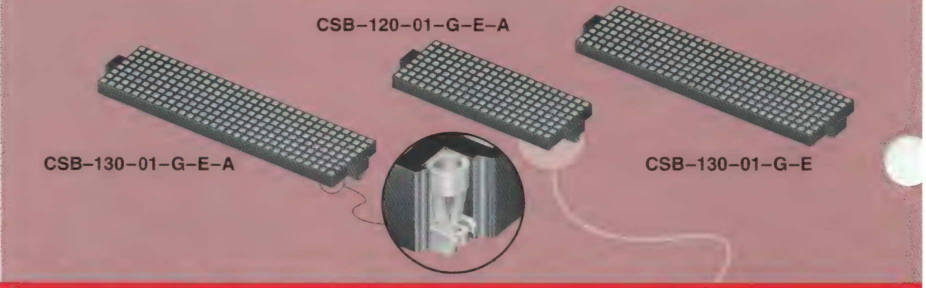


.050" AREA ARRAY SOCKET CSB SERIES

(1,27mm) .050"

SPECIFICATIONS

Materials:

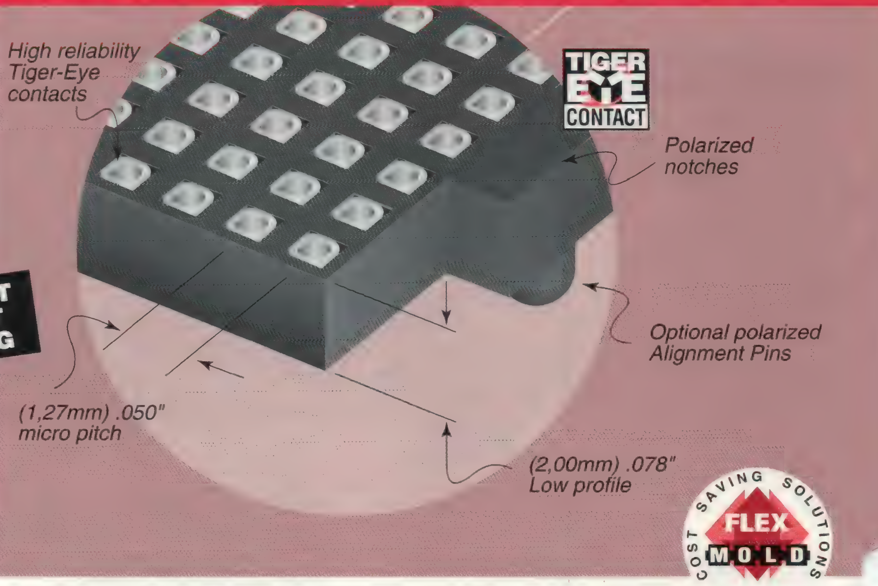
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Beryllium Copper
Current Rating:
2A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50µ" (1,27µm) Ni
Contact Resistance:
10mΩ max
Insertion Depth:
(1,79mm) .070" min/max
Insertion Force:
1.3oz (0,36N) avg
Withdrawal Force:
0.4oz (0,11N) avg

Mates with:
MSB

Surface Mount!

CONTACT PATENT PENDING

Note: Some sizes, styles and options are non-standard, non-returnable.

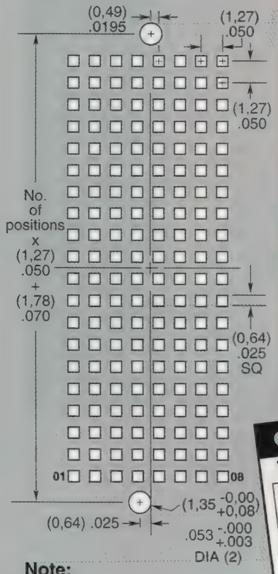


COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

Processing:

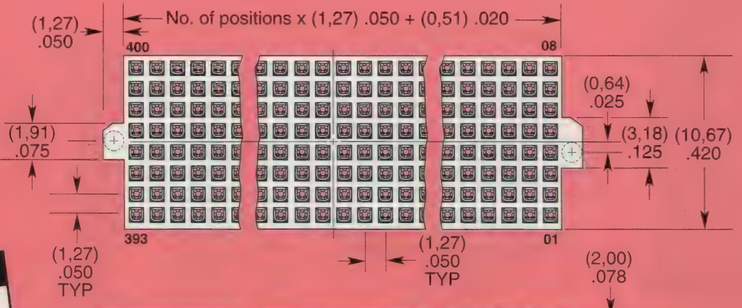
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Typical Processing:
- Water soluable paste compound
- (0,15mm to 0,20mm) .006" to .008" paste thickness
- 1:1 aperture
- Mask or plug vias
- Process like a BGA
- X-ray inspection as required

Suggested PCB Layouts:
Your specific layout may vary

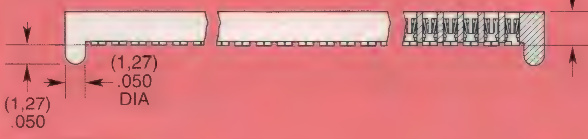


Note:
Solder pads are offset from connector centerline as shown above.

CSB	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			20 & 30		**–01** = Surface Mount		**–G** = 20µ" (0,51µm) Gold on contact area		**–E** = Eight Row (Call Samtec for other sizes)		**–A** = Alignment Pin (Metal or plastic at Samtec discretion) **–TR** = Tape & Reel



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.



–A OPTION

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F-198-2

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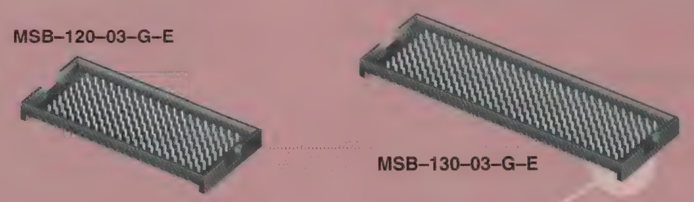
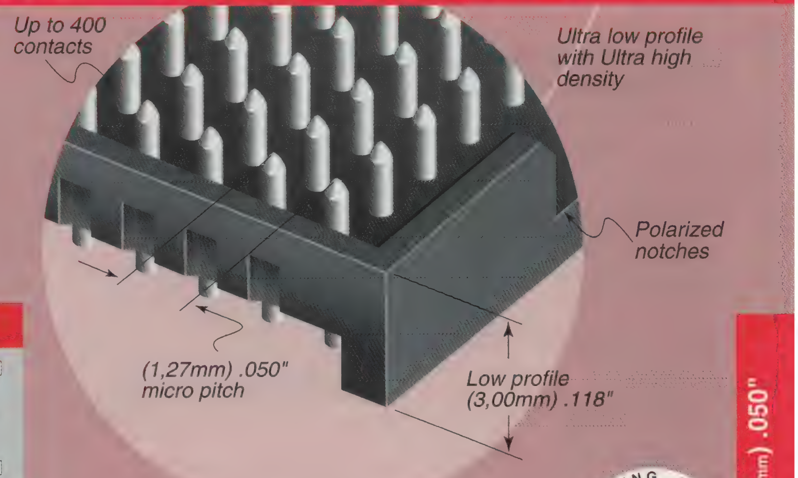


.050" AREA ARRAY TERMINAL MSB SERIES



SPECIFICATIONS

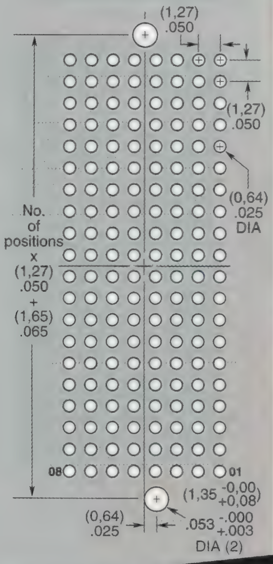
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
2A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50µ" (1,27µm) Ni

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Typical Processing:
- Water soluable paste compound
- (0,15mm to 0,20mm) .006" to .008" paste thickness
- 1:1 aperture
- Mask or plug vias
- Process like a BGA
- X-ray inspection as required

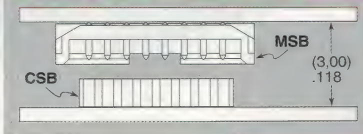
Suggested PCB Layouts:
Your specific layout may vary



Mates with:
CSB

Surface Mount!

APPLICATION



Note: Some sizes, styles and options are non-standard, non-returnable.

COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

(1,27mm) .050"

MSB – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

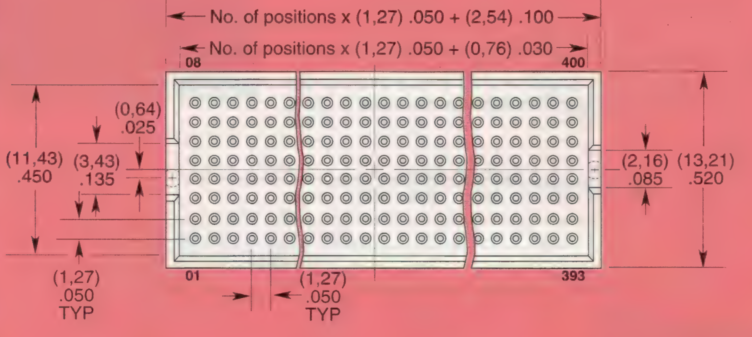
20 & 30

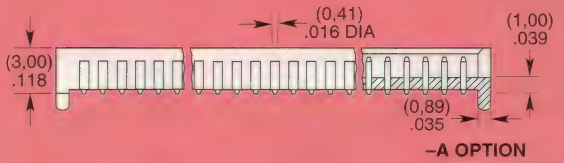
LEAD STYLE: –03 = Surface Mount

PLATING OPTION: –G = 20µ" (0,51µm) Gold on post

ROW OPTION: –E =Eight Row (Call Samtec for other sizes)

OTHER OPTION:
–A = Alignment Pin (Metal or plastic at Samtec discretion)
–TR =Tape & Reel





TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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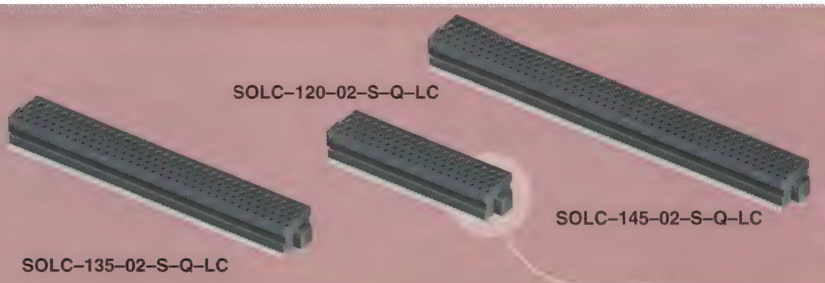
POPULAR CONNECTORS Ship in 3 DAYS



Surface **SMT** Mount

QUAD ROW SOCKET SOLC SERIES

SPECIFICATIONS

Mates with: TOLC

TIGER BUY CONTACT

Materials:

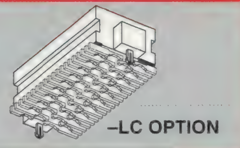
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 4.5A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (1,68mm) .066" to (3,61mm) .142" with (0,38mm) .015" wipe
Insertion Force: 4oz (1,11N) average
Normal Force: 75 grams (0,74N) average
Withdrawal Force: 5oz (1,39N) average
Max Cycles: 100+

Note: Some sizes, styles and options are non-standard, non-returnable.

(1,27mm) .050"

4 ROW

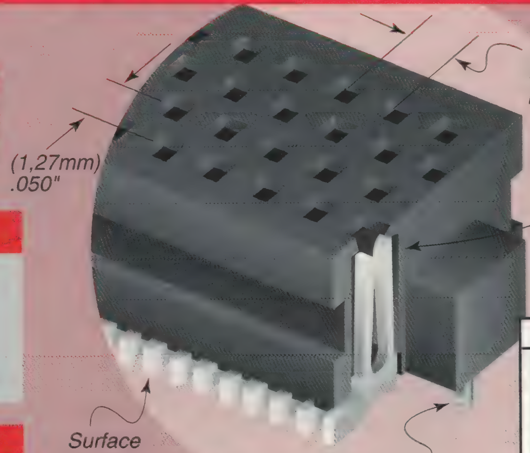
OPTIONS



–LC OPTION

APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.



HIGH SPEED INTERCONNECT

Mated with TOLC

Impedance: 51Ω average @ 500 MHz (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 4.6nH average @ 1 MHz
Propagation Delay: 57.3pS @ 1:1
Cross Talk: -25.0 dB @ 500 MHz G/S/S/G

SOLC – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – Q – OPTION

NO. PINS PER ROW: 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

PLATING OPTION:

–S = 30µ" (0,76µm) Gold on contact, Gold flash on tail

–L = 10µ" (0,25µm) Gold on contact, Gold flash on tail

–F = Gold flash on contact, Gold flash on tail

OPTION:

–A = Alignment Pin (–RA not available)

–LC = Locking Clip

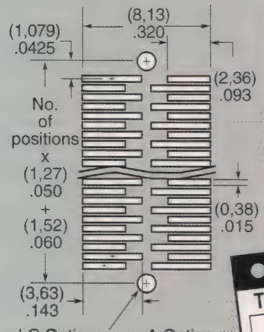
–P = Pick & Place Pad

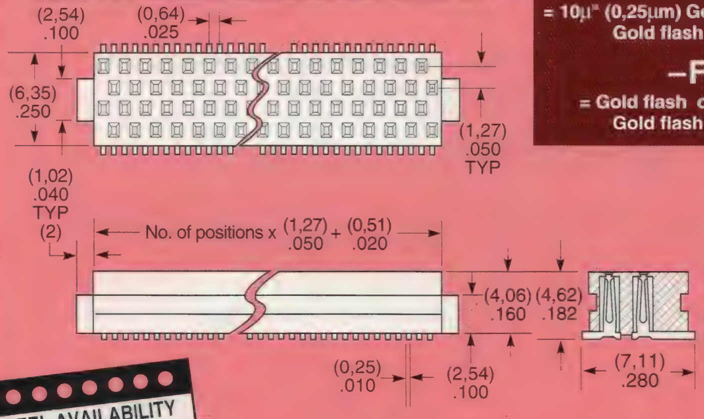
–K = (7,00mm) .276" DIA Polyimide film Pick & Place Pad

–TR = Tape & Reel

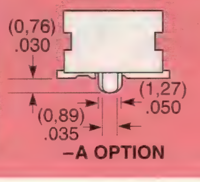
Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary

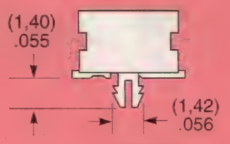




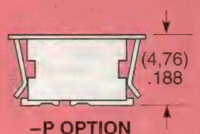
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.



–A OPTION



–LC OPTION



–P OPTION

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Due to technical progress, all designs, specifications and components are subject to change without notice.

samtec

POPULAR CONNECTORS Ship in 3 DAYS

Surface SMT Mount

QUAD ROW TERMINAL TOLC SERIES

SPECIFICATIONS

Mates with: SOLC

Materials:

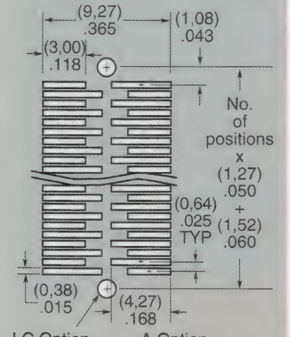
Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 4.5A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni

4 ROW

Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:

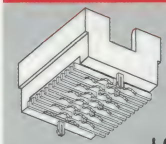
Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: 20-30=(0,10mm) .004" max 35-50=(0,15mm) .006" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



–LC Option = (1,19 -0,00 +0,08) .047 -.000 +.003 DIA (2)

–A Option = (1,35 -0,00 +0,08) .053 -.000 +.003 DIA (2)

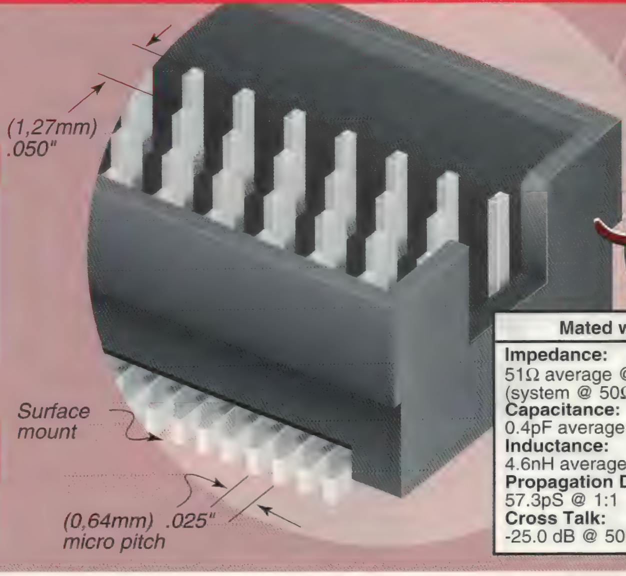
OPTIONS



–LC OPTION

APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.



Drop-in replacement for FOLC/MOLC when mated with SOLC

HIGH SPEED INTERCONNECT

Mated with SOLC

Impedance: 51Ω average @ 500 MHz (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 4.6nH average @ 1 MHz
Propagation Delay: 57.3pS @ 1:1
Cross Talk: -25.0 dB @ 500 MHz G/S/S/G

(1,27mm) .050"

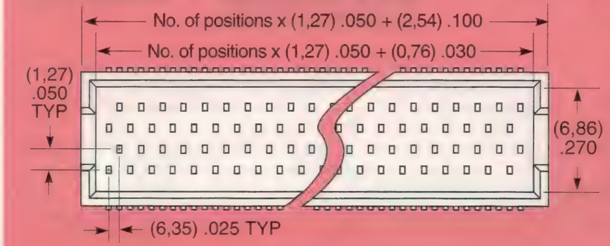
TOLC – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – Q – OPTION

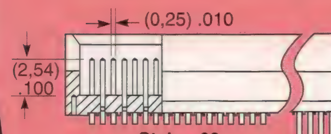
NO. PINS PER ROW: 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

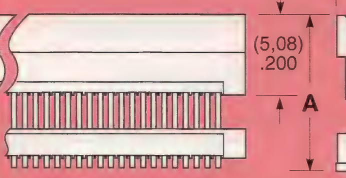
PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold on post, Gold flash on tail
- **–L** = 10µ" (0,25µm) Gold on post, Gold flash on tail
- **–F** = Gold flash on post, Gold flash on tail

OPTION:
- **–A** = Alignment Pin
- **–LC** = Locking Clip
- **–P** = Pick & Place Pad
- **–TR** = Tape & Reel

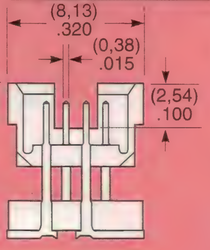


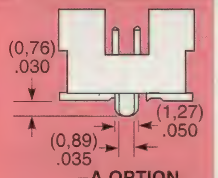


Style –02



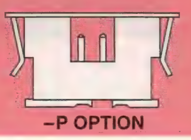
Styles –12,–22,–32



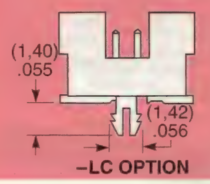


–A OPTION

LEAD STYLE	A	MATED HEIGHT
– 02	(5,59) .220	(6,35) .250
– 12	(7,24) .285	(8,00) .315
– 22	(9,25) .364	(10,00) .394
– 32	(11,23) .442	(12,00) .472



–P OPTION



–LC OPTION

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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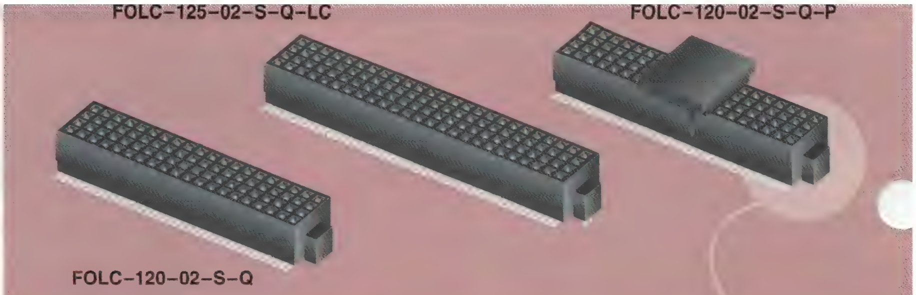
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 58

.050" x .050" SOCKETS FOLC SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 1A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: (3,30mm) .130" to (4,06mm) .160"
Insertion Force: Standard= 5.0oz (1,39N) avg; LIF= 2.0oz (0,56N) avg.
Normal Force: Standard= 70 grams (0,69N) avg; LIF= 40 grams (0,39N) avg.
Withdrawal Force: Standard= 4oz (1,11N) avg; LIF= 1.5oz (0,42N) avg.
Max Cycles: 100 with 10µ" (2,54µm) Au

Note: Some sizes, styles and options are non-standard, non-returnable.

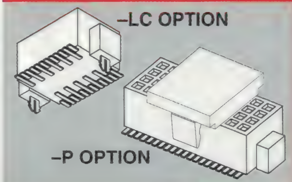
(1,27mm) .050"

4 ROW

Mates with: MOLC

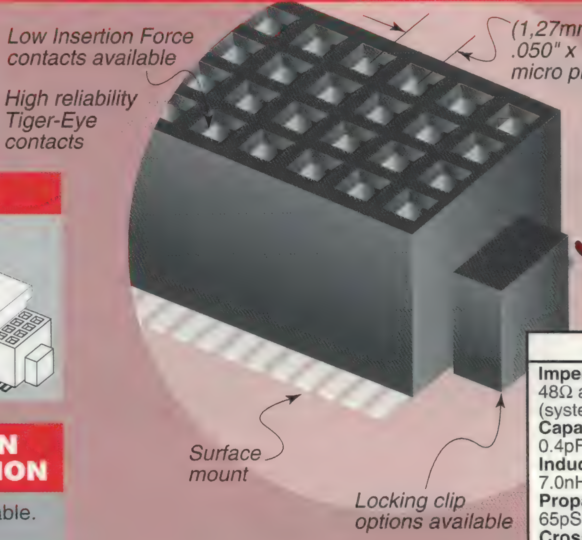
TIGER EYE CONTACT

OPTIONS



APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.



HIGH SPEED INTERCONNECT

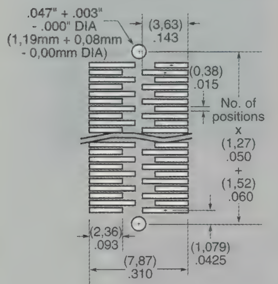
Mated with MOLC

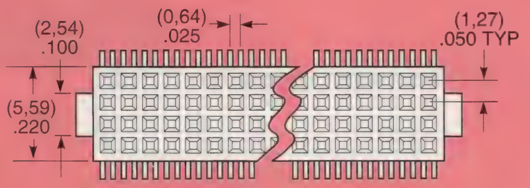
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 7.0nH average @ 1 MHz
Propagation Delay: 65pS @ 1:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

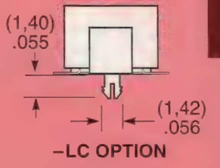
FOLC	-	1	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	Q	-	OPTION
			20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)		-02 = Surface Mount -L2 = Low Insertion Force Surface Mount		-S = 30µ" (0,76µm) Gold contact, 100µ"(2,54µm) Tin tail				-LC = Locking Clip -P = Pick & Place Pad -K = (6,75mm) .266" DIA Polyimide film Pick & Place Pad -TR = Tape & Reel

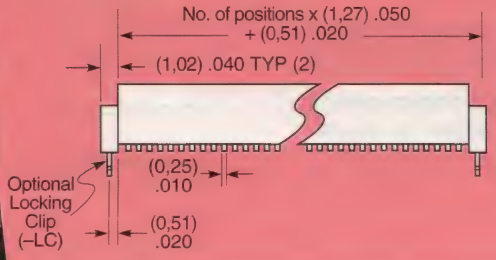
Processing:

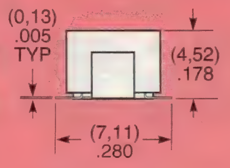
Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary

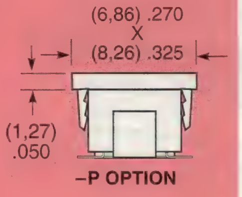












TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

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Due to technical progress, all designs, specifications and components are subject to change without notice.

F-198-2

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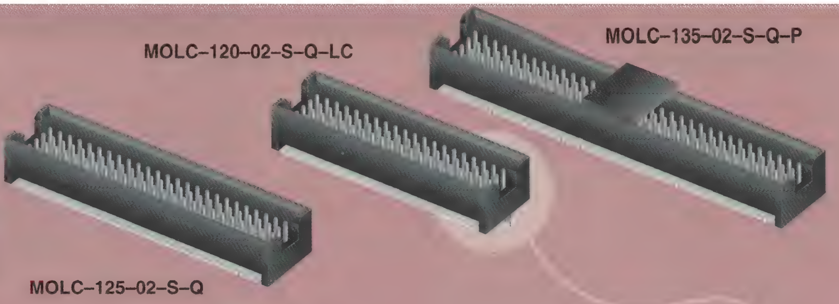
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 59

.050" x .050" HEADERS MOLC SERIES

SPECIFICATIONS

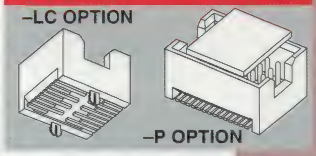
Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 1A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Max Processing Temp: 230°C for 60 seconds
Plating: Au or Sn over 50μ" (1,27μm) Ni

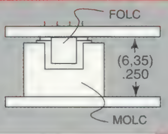
4 ROW

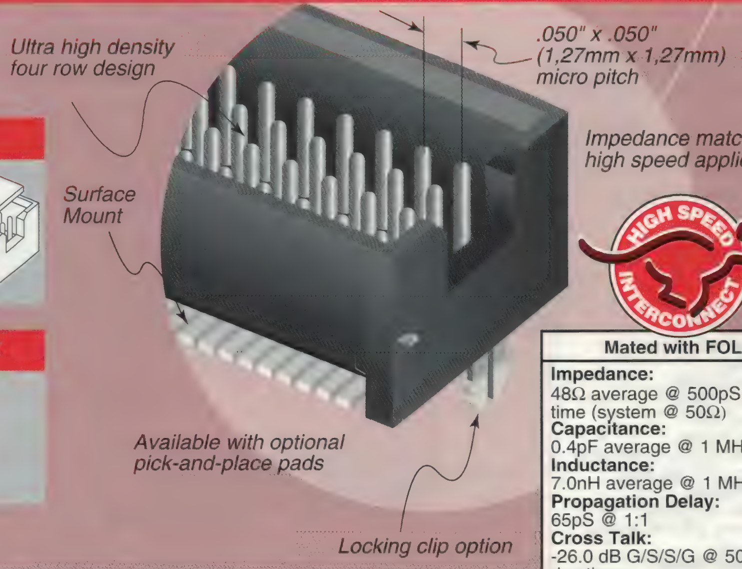
Mates with: FOLC

OPTIONS



APPLICATIONS





HIGH SPEED INTERCONNECT

Mated with FOLC
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 7.0nH average @ 1 MHz
Propagation Delay: 65pS @ 1:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

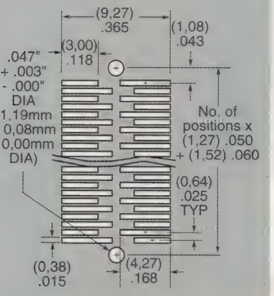
(1,27mm) .050"

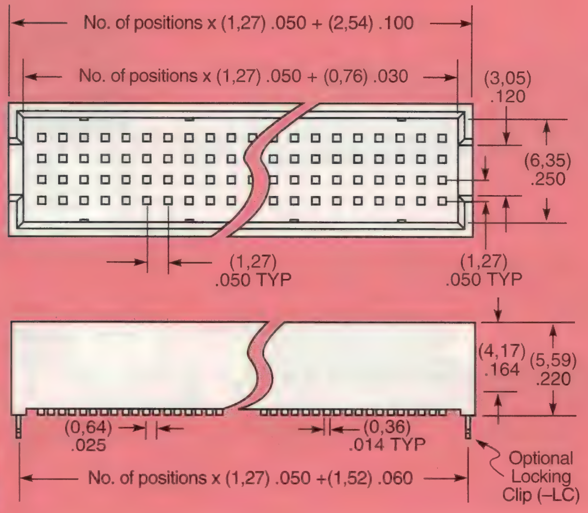
Note: Some sizes, styles and options are non-standard, non-returnable.

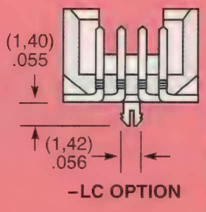
MOLC	– 1 –	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	– Q –	OPTION
		20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)		–02 = Surface Mount		–S = 30μ" (0,76μm) Gold post, 100μ"(2,54μm) Tin tail		–LC = Locking Clip –P = Pick & Place Pad –TR =Tape & Reel

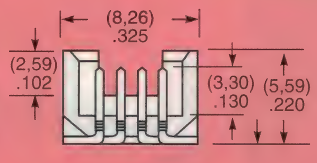
Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,15mm) .006" max (30-50) (0,10mm) .004" max (20-25)
Suggested PCB Layouts: Your specific layout may vary





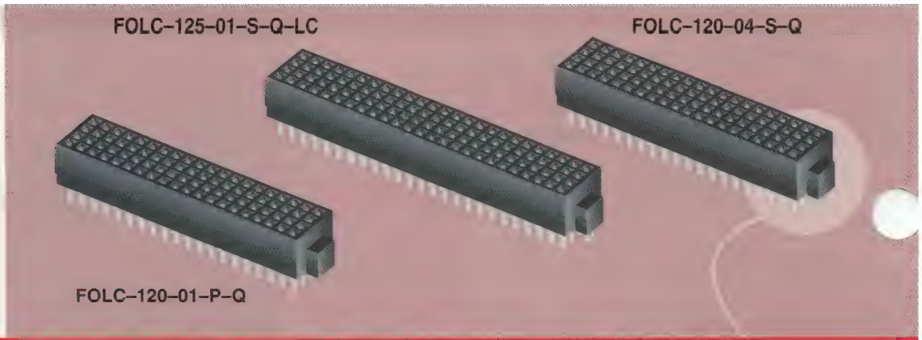




APPLICATION SPECIFIC OPTION
Alignment pins available. Call Samtec.

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

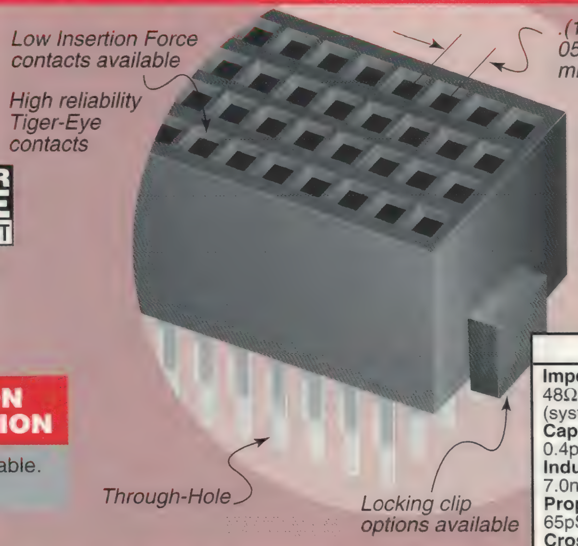
F-198-2



POPULAR CONNECTORS Ship in 3 DAYS

Through T/H Hole SMT Page 56

.050" x .050" SOCKETS FOLC SERIES



Impedance matched for high speed applications

HIGH SPEED INTERCONNECT

TIGER EYE CONTACT

4 ROW

(1,27mm) .050"

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 1A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au, PdNi or Sn over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: (3,30mm) .130" to (4,06mm) .160"
Insertion Force: Standard= 5.0oz (1,39N) avg; LIF= 2.0oz (0,56N) avg.
Normal Force: Standard= 70 grams (0,69N) avg; LIF= 40 grams (0,39N) avg.
Withdrawal Force: Standard= 4oz (1,11N) avg; LIF= 1.5oz (0,42N) avg.
Max Cycles: 100 with 10µ" (2,54µm) Au

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with: MOLC

APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.

Mated with MOLC

Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 7.0nH average @ 1 MHz
Propagation Delay: 65pS @ 1:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

FOLC – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – Q – OPTION

NO. PINS PER ROW: 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

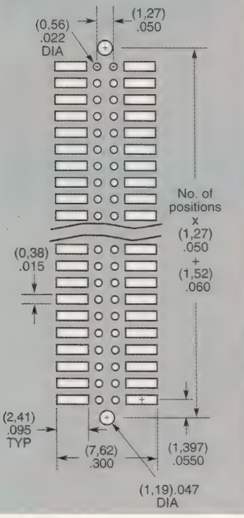
LEAD STYLE:
- **–01 & –04** = Through-Hole
- **–M1 & –M2** = Mixed Technology

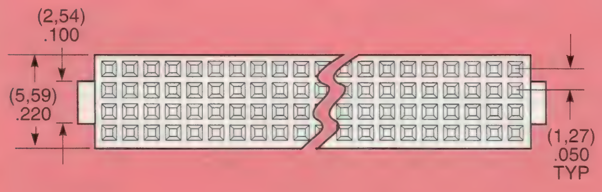
PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold contact, 100µ"(2,54µm) Tin tail
- **–P** = Gold flash over 30µ" (0,76µm) PdNi contact, 100µ" (2,54µm) Tin tail (–01 & –04 only)

OPTION:
- **–LC** = Locking Clip

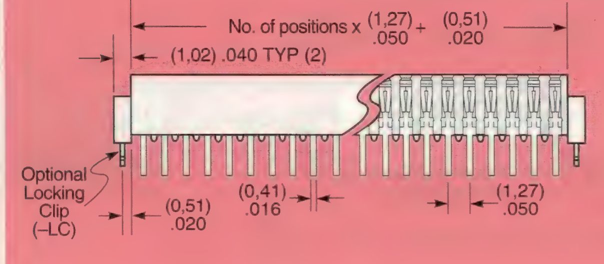
Processing:

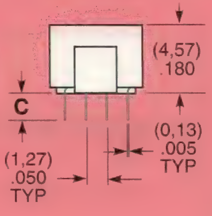
Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary

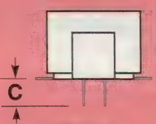




LEAD STYLE	C
–01, –M1	(1,91) .075
–04, –M2	(3,04) .120







Mixed Technology

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Due to technical progress, all designs, specifications and components are subject to change without notice.

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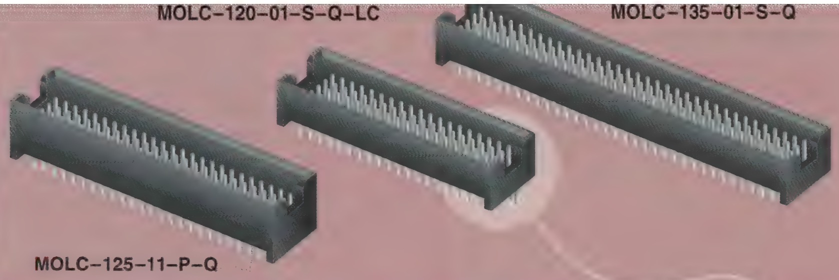
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

SMT Page 57

.050" x .050" HEADERS MOLC SERIES

SPECIFICATIONS

Materials:

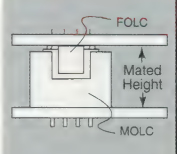
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Max Processing Temp:
230°C for 60 seconds
Plating:
Au, PdNi or Sn over 50µ" (1,27µm) Ni

4 ROW

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with:
FOLC

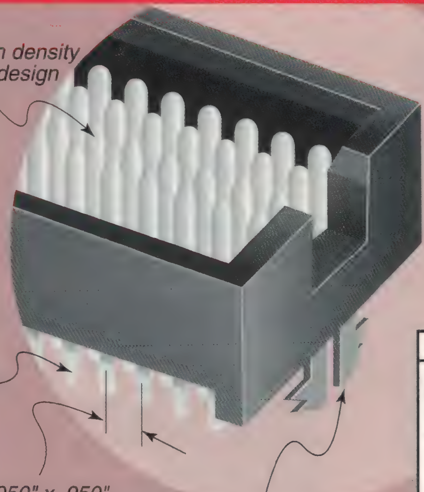
APPLICATIONS



LEAD STYLE MOLC	LEAD STYLE FOLC	MATED HEIGHT
–01	–01	(5,97) .235
–11	–01	(7,75) .305
–31	–01	(11,43) .450
–02	–02	(6,35) .250

APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.



Impedance matched for high speed applications

HIGH SPEED INTERCONNECT

Mated with FOLC

Impedance:
48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance:
0.4pF average @ 1 MHz
Inductance:
7.0nH average @ 1 MHz
Propagation Delay:
65pS @ 1:1
Cross Talk:
-26.0 dB G/S/S/G @ 500pS rise time

(1,27mm) .050"

MOLC – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – Q – OPTION

NO. PINS PER ROW:
20, 25, 30, 35, 40, 45, 50
(Call Samtec for other sizes)

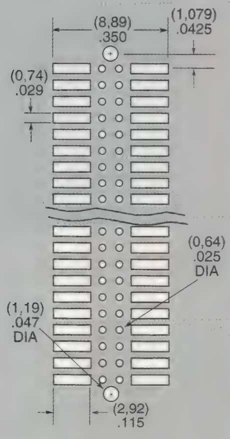
LEAD STYLE:
–"X"1 = Through-hole (Specify from chart)
–M1 = Mixed Technology

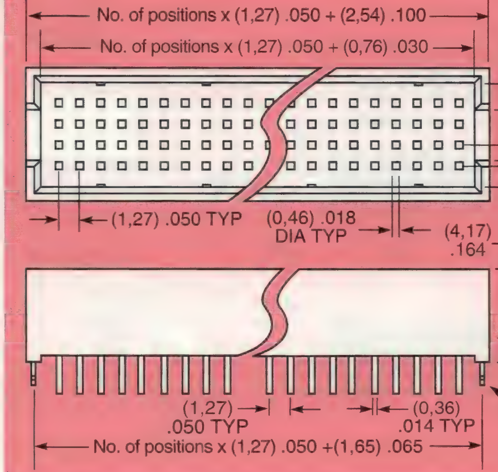
PLATING OPTION:
–S = 30µ" (0,76µm) Gold post, 100µ"(2,54µm) Tin tail
–P = Gold flash over 30µ" (0,76µm) PdNi post, 100µ" (2,54µm) Tin tail (Through-hole only)

OPTION:
–LC = Locking Clip

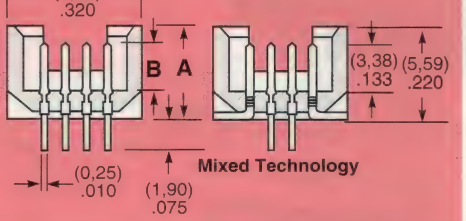
Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
20-25 = (0,10mm) .004" max
30-50 = (0,15mm) .006" max
Suggested PCB Layouts:
Your specific layout may vary





LEAD STYLE	A	B
– 01	(5,59) .220	(3,38) .133
– 11	(7,34) .289	(3,66) .144
– 31	(11,05) .435	(3,66) .144



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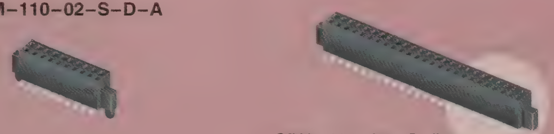
POPULAR CONNECTORS Ship Next DAY



Surface SMT Mount

T/H Page 62

.050" x .050" SOCKETS SFM SERIES

(1,27mm) .050"

SPECIFICATIONS

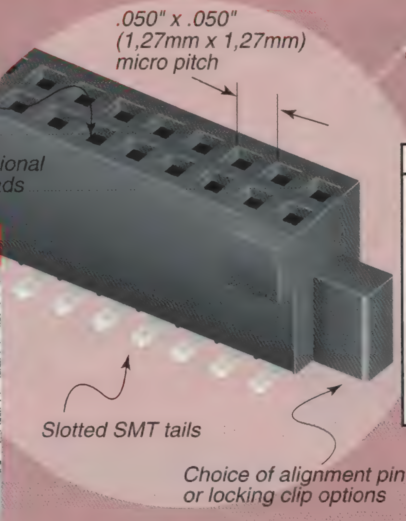
Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: .120" (3,05mm) to .160" (4,06mm)
Insertion Force: Standard= 5oz (1,39N) avg; LIF= 2.0oz (0,56N) avg.
Normal Force: Standard= 70g (0,69N) avg; LIF= 40g (0,39N) avg.
Withdrawal Force: Standard= 4oz (1,11N) avg; LIF= 1.5oz (0,42N) avg.
Max Cycles: 100 with 10µ" (0,25µm) Au

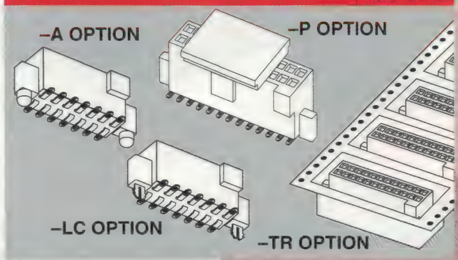
Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with: TFM, FTS (LIF), FW (LIF), FTSH (LIF)

TIGER EYE CONTACT



OPTIONS



HIGH SPEED INTERCONNECT

Mated with TFM

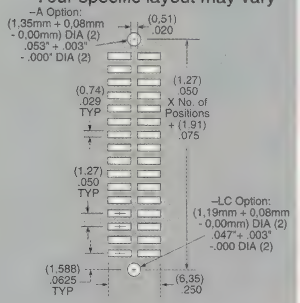
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1MHz
Inductance: 7.0nH average @ 1MHz
Propagation Delay: 57pS @ 1:183pS @ 7:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

COST SAVING SOLUTIONS FLEX MOLD

SEE PAGE 8

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: .006" (0,15mm) max (30-50) .004" (0,10mm) max (05-25)
Suggested PCB Layouts: Your specific layout may vary



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

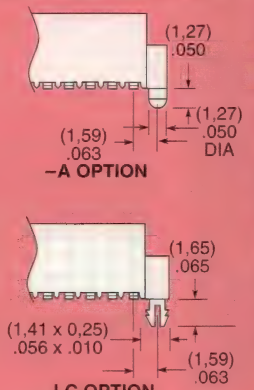
SFM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OPTION

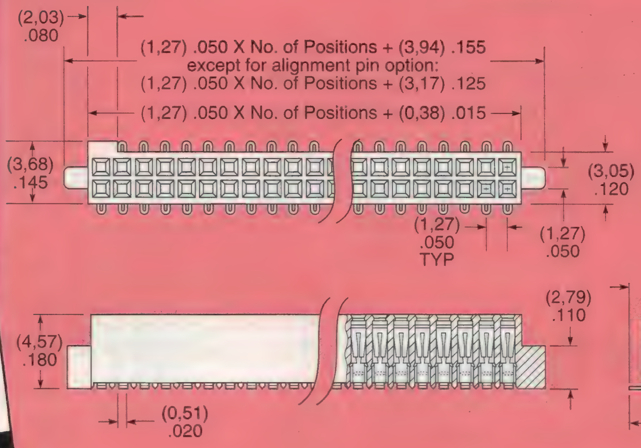
NO. PINS PER ROW
05, 10, 15, 20, 25, 30, 35, 40, 45, 50
= SFM Series
(Call Samtec for other sizes)
See SFMC Series for more sizes

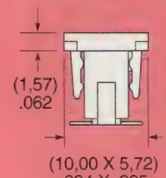
LEAD STYLE
–02 = Surface Mount
–L2 = Low Insertion Force Surface Mount

PLATING OPTION
–S = 30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin tail

OPTION
–A = Alignment Pin (Metal or plastic at Samtec discretion) (N/A with –LC)
–LC = Locking Clip (N/A with –A)
–P = Pick & Place Pad
–K = (4,00mm) .157" DIA Polyimide film Pick & Place Pad
–TR = Tape & Reel







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POPULAR CONNECTORS Ship Next DAY

Surface **SMT** Mount

T/H Page 63

.050" x .050" HEADERS TFM SERIES

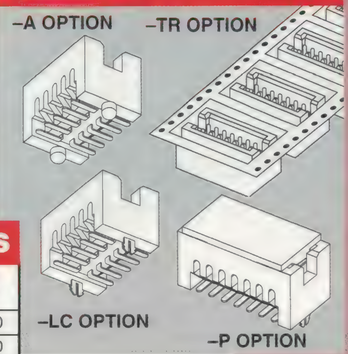
SPECIFICATIONS

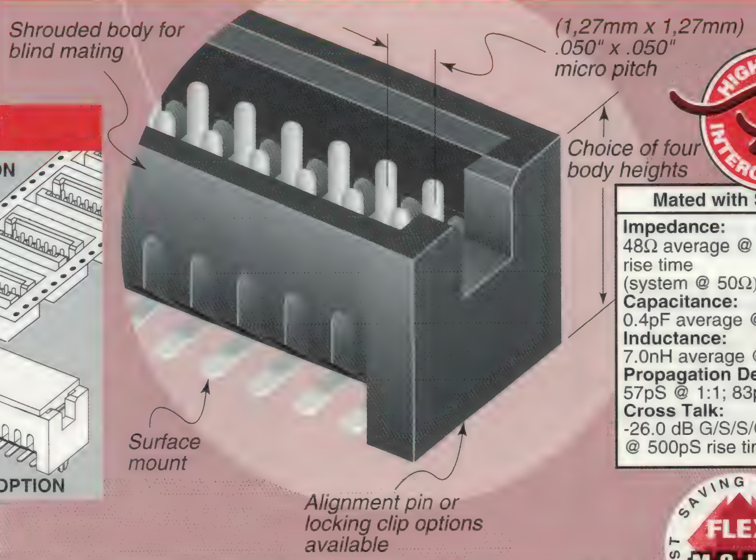
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
2A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50µ" (1,27µm) Ni

Mates with:
SFM, SFMC

OPTIONS





HIGH SPEED INTERCONNECT

Mated with SFM
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 7.0nH average @ 1 MHz
Propagation Delay: 57pS @ 1:1; 83pS @ 7:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

(1,27mm) .050"

APPLICATIONS

LEAD STYLE		MATED HEIGHT
TFM	SFM	
– 02	– 02	(6,35) .250
– 12		(8,13) .320
– 22		(9,91) .390
– 32		(11,81) .465

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

Note:
Some sizes, styles and options are non-standard, non-returnable.

TFM	–	1	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION

NO. PINS PER ROW: 05, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

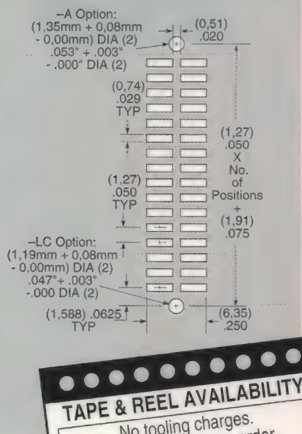
PLATING OPTION:
–S = 30µ" (0,76µm) Gold post, 150µ" (3,81µm) Tin tail

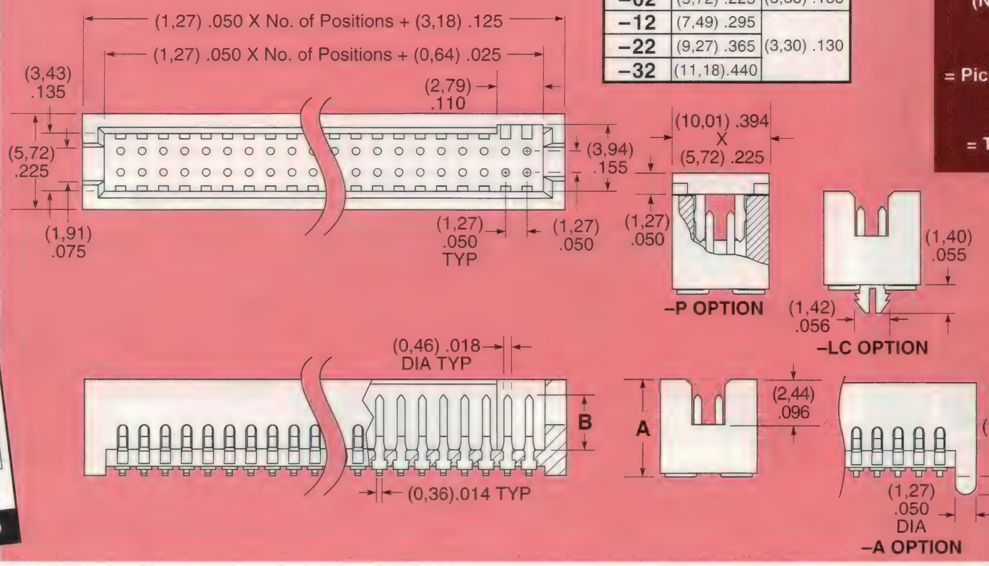
OPTION:
–A = Alignment Pin Metal or plastic at Samtec discretion. (N/A with –LC)
–LC = Locking Clip (N/A with -A)
–P = Pick & Place Pad
–TR = Tape & Reel

LEAD STYLE	A	B
–02	(5,72) .225	(3,38) .133
–12	(7,49) .295	
–22	(9,27) .365	(3,30) .130
–32	(11,18).440	

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
05-25 = (0,10mm) .004" max
30-50 = (0,15mm) .006" max
Suggested PCB Layouts:
Your specific layout may vary





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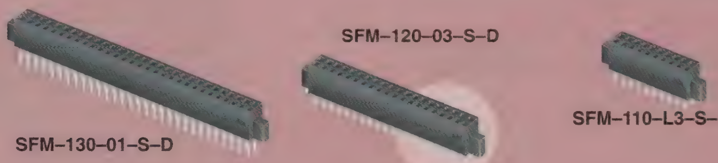


Through T/H Hole | SMT Page 60

.050" x .050" SOCKETS SFM SERIES

SPECIFICATIONS

Materials:

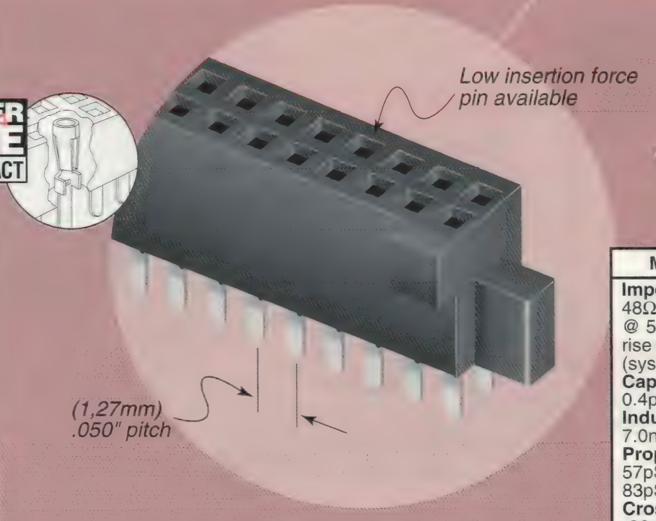
Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: (3,05mm) .120" to (4,06mm) .160"
Insertion Force: Standard= 5oz (1,39N) avg; LIF= 2.0oz (0,56N) avg.
Normal Force: Standard= 70g (0,69N) avg; LIF= 40g (0,39N) avg.
Withdrawal Force: Standard= 4oz (1,11N) avg; LIF= 1.5oz (0,42N) avg.
Max Cycles: 100 with 10µ" (0,25µm) Au

(1,27mm) .050"

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with: TFM, FTS (LIF), FW(LIF), FTSH (LIF)

TIGER EYE CONTACT



HIGH SPEED INTERCONNECT

Mated with TFM
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1MHz
Inductance: 7.0nH average @ 1MHz
Propagation Delay: 57pS @ 1:1; 83pS @ 7:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time

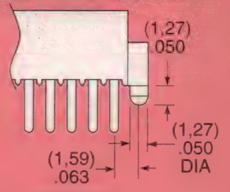
SFM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OPTION

NO. PINS PER ROW: 05, 10, 15, 20, 25, 30, 35, 40, 45, 50
= SFM Series
(Call Samtec for other sizes)
See SFMC Series for more sizes

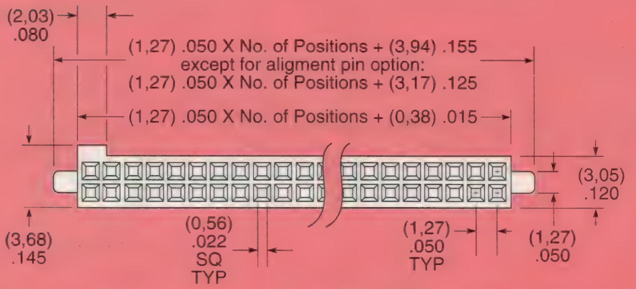
LEAD STYLE:
–01,–03 = Through-hole
–L1,–L3 = Low Insertion Force Through-hole

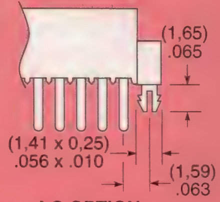
PLATING OPTION:
–S = 30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin tail

OPTION:
–A = Alignment Pin (Metal or plastic at Samtec discretion) (N/A with –LC)
–LC = Locking Clip (N/A with –A)

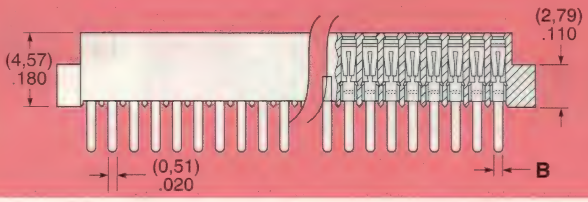


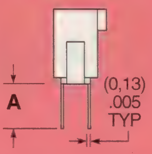
–A OPTION





–LC OPTION





LEAD STYLE	A	B
–01, –L1	(3,05) .120	(0,51) .020
–03, –L3	(1,91) .075	(0.41) .016

Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE IR THROUGH-HOLE

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Through T/H Hole | SMT Page 61

.050" x .050" HEADERS TFM SERIES

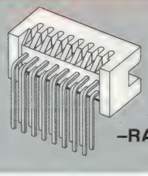
SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
2A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50µ" (1,27µm) Ni

Mates with:
SFM, SFMC

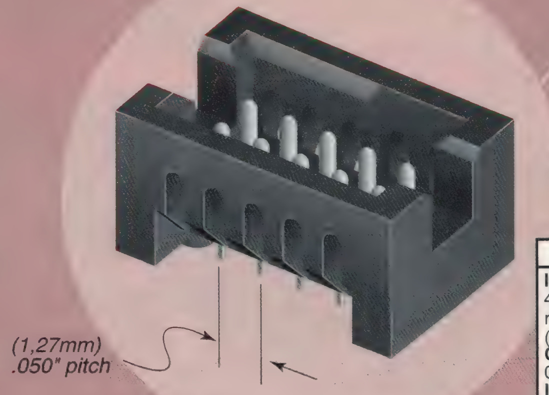
OPTIONS



–RA OPTION

APPLICATIONS

LEAD STYLE TFM	LEAD STYLE SFM	MATED HEIGHT
– 01	– 01	(5,97) .235
– 11		(7,75) .305
– 21		(9,53) .375
– 31		(11,43) .450



HIGH SPEED INTERCONNECT

Mated with SFM
Impedance:
48Ω average @ 500pS rise time
(system @ 50Ω)
Capacitance:
0.4pF average @ 1 MHz
Inductance:
7.0nH average @ 1 MHz
Propagation Delay:
57pS @ 1:1; 83pS @ 7:1
Cross Talk:
-26.0 dB G/S/S/G
@ 500pS rise time

(1,27mm) .050"

TFM – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OTHER OPTION

NO. PINS PER ROW: 05, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION: **–S** = 30µ" (0,76µm) Gold post, 150µ" (3,81µm) Tin tail

OTHER OPTION:
–RA = Right Angle (Style –01 only)
–A = Alignment Pin Metal or plastic at Samtec discretion. (N/A with –RA or –LC)
–LC = Locking Clip (N/A with –RA or –A)

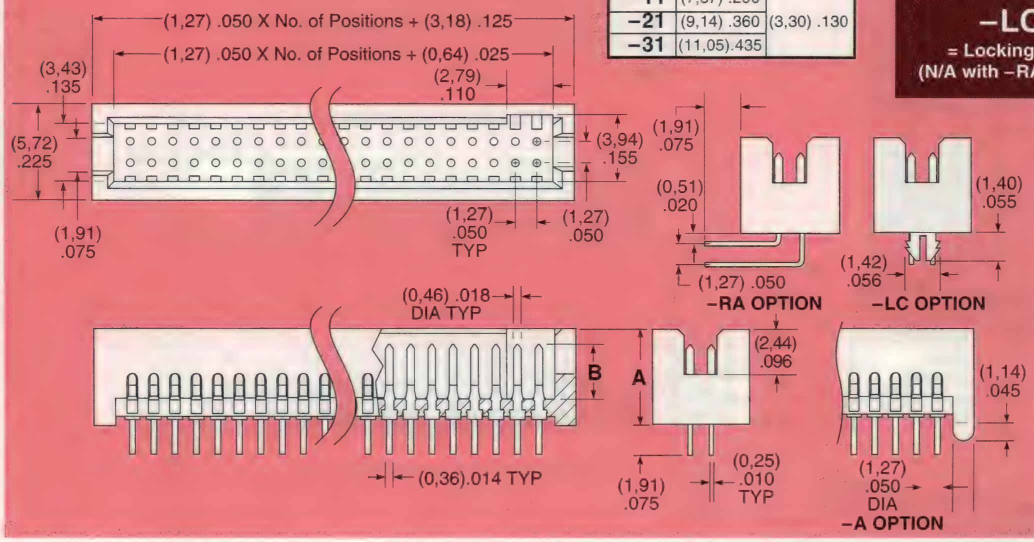
LEAD STYLE	A	B
–01	(5,59) .220	(3,38) .133
–11	(7,37) .290	
–21	(9,14) .360	(3,30) .130
–31	(11,05).435	

Note:
Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE



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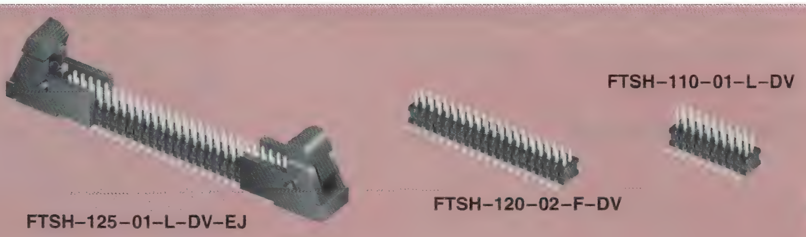


Surface **SMT** Mount

T/H Page 66

.050" MICRO HEADER FTSH SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 1.75A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Sn or Au over 50µ" (1,27µm) Ni

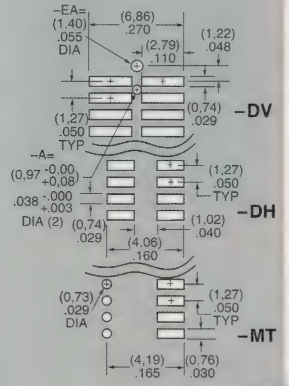
Note: See SFM/TFM for positive alignment feature.

Note: Some sizes, styles and options are non-standard, non-returnable.

(1,27mm) .050"

Processing:

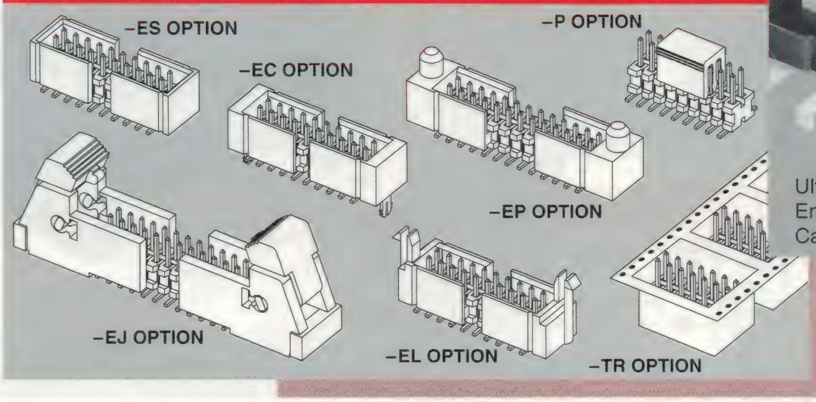
Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



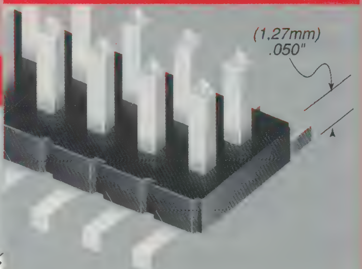
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

Mates with: FFSD, CLP, FLE

OPTIONS



ALSO AVAILABLE



Ultra low profile option available.
End Shrouds available.
Call for FTS Series specifications.

APPLICATION SPECIFIC OPTION

Molded pick-and-place pads and straddle mount leads available. Call Samtec.

FTSH – 1 – NO. PINS PER ROW – LEAD STYLE –

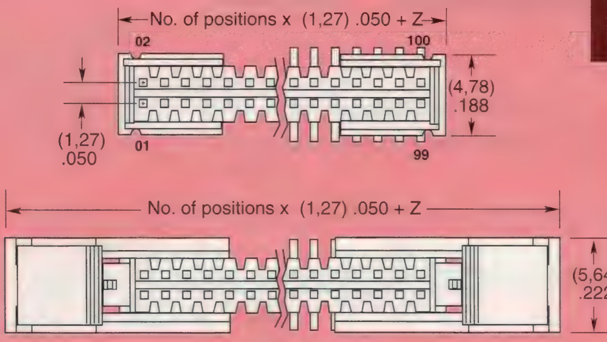
NO. PINS PER ROW: 05 thru 50

LEAD STYLE:

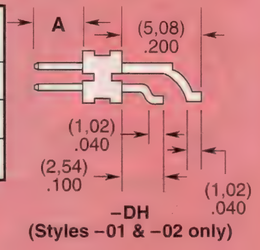
–01 = (3,05) .120" Post (Mates with FFSD, FLE)

–02 = (1,91) .075" Post (Mates with FLE)

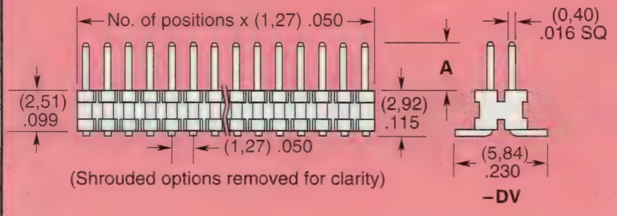
–03 = (1,65) .065" Post (Mates with CLP –DV)

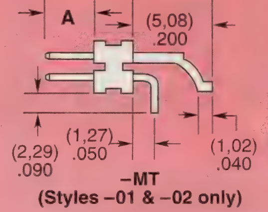


LEAD STYLE	A
–01	(3,05) .120
–02	(1,91) .075
–03	(1,65) .065



OPTION	Z
–ES	(1,55) .061
–EJ	(15,77) .621
–EC	(3,33) .131
–EP	(5,87) .231
–EL	(6,53) .257





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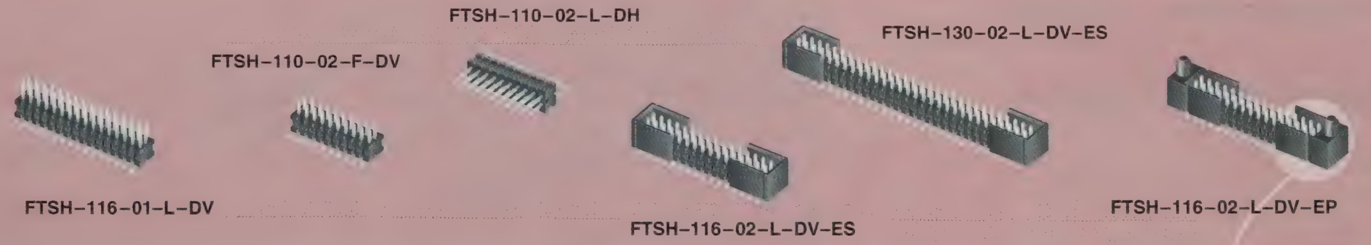
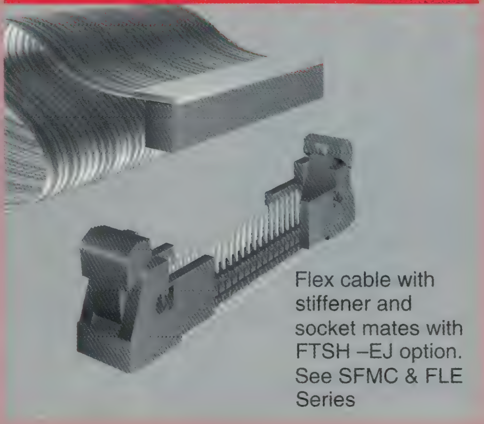
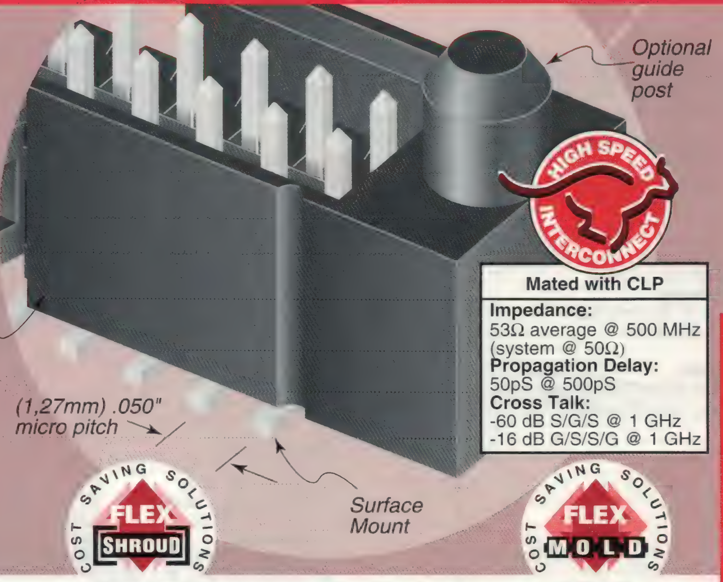


APPLICATIONS





Mated with CLP

Impedance:
53Ω average @ 500 MHz (system @ 50Ω)
Propagation Delay:
50pS @ 500pS
Cross Talk:
-60 dB S/G/S @ 1 GHz
-16 dB G/S/S/G @ 1 GHz

COST SAVING SOLUTIONS FLEX SHROUD
SEE PAGE 10

COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

(1,27mm) .050"

PLATING OPTION

–L
= 10µ"(0,25µm) Gold on post 75µ" (1,91µm) Tin on tail

–F
= Gold flash on post, 75µ" (1,91µm) Tin on tail

TAIL OPTION

–DV
= Double Vertical

–DH
= Double Horizontal (Styles –01 & –02 only)

–MT
= Mixed Technology (Styles –01 & –02 only)

FLEX SHROUD OPTIONS

(Style –02 & –03 only, –DH not available)
9 pins/row minimum

–ES
= End Shroud

–EC
= End Shroud with Locking Clip

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock (Boards are positively locked and cannot be unmated)

–EJ
= Ejector Shroud (Style –01 only) –DH not available) 10 pins/row minimum 25 pins/row maximum

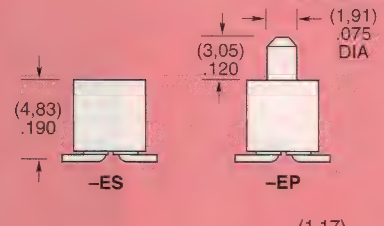
OTHER OPTIONS

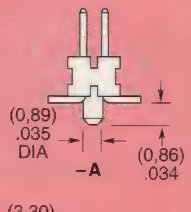
–K
= Keying Shroud (For mating with FFSD Styles –01 only, 05, 10, 13, 20 & 25 pins/row only, 20 & 25 only with shrouds)

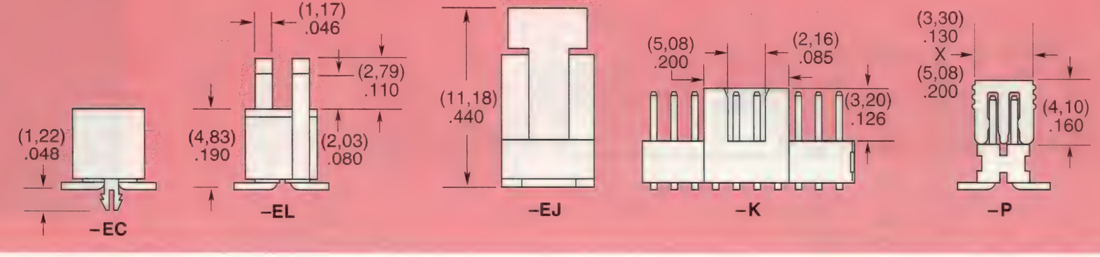
–A
= Alignment Pin
Not available with –K
(–DV 3 positions minimum)
(–DH 8 positions minimum)
(Metal or plastic at Samtec discretion)

–P
= Pick & Place Pad
(–DV 5 positions minimum)
(–DH 6 positions minimum)

–TR
= Tape & Reel Packaging (Style –DV & –DH only) (Options not available except –ES & –EJ)







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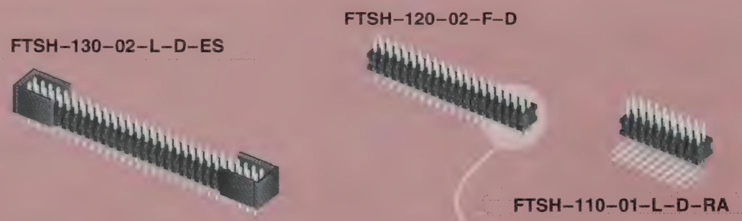
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

SMT Page 64

.050" MICRO HEADER FTSH SERIES

(1,27mm) .050"

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.75A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Note:
See SFM/TFM for positive alignment feature.

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with:
FFSD, CLP, FLE

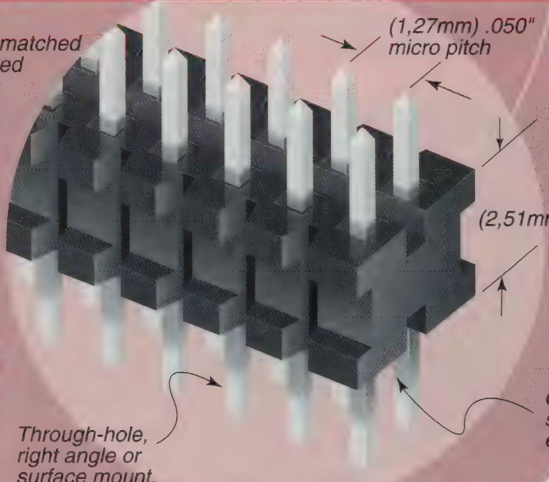
APPLICATION SPECIFIC OPTION

Molded pick-and-place pads available. Call Samtec.

HIGH SPEED INTERCONNECT

Mated with CLP

Impedance:
53Ω average @ 500 MHz (system @ 50Ω)
Propagation Delay:
50pS @ 500pS
Cross Talk:
-60 dB S/G/S @ 1 GHz
-16 dB G/S/S/G @ 1 GHz



COST SAVING SOLUTIONS FLEX SHROUD

SEE PAGE 10

FTSH – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – TAIL OPTION – OTHER OPTIONS

05 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:

–L =10µ"(0,25µm) Gold on post 75µ" (1,91µm) Tin on tail

–F = Gold flash on post, 75µ" (1,91µm) Tin on tail

TAIL OPTION:

Leave blank for straight tail

–RA = Right Angle

OTHER OPTIONS:

–ES = End Shroud (Style –02 & –03) 9 pins/row min.

–EP = End Shroud with Guide Post (Style –02 & –03) 9 pins/row min.

–EL = End Shroud with Board Lock (Style –02 & –03) 9 pins/row min.

–EJ = Ejector Shroud (Style –01 only) 10 pins/row minimum 25 pins/row max.

–K = Keying Shroud (For mating with FFSD Styles –01 only, 05, 10, 13, 20 & 25 pins/row only, 20 & 25 only with shrouds)

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!

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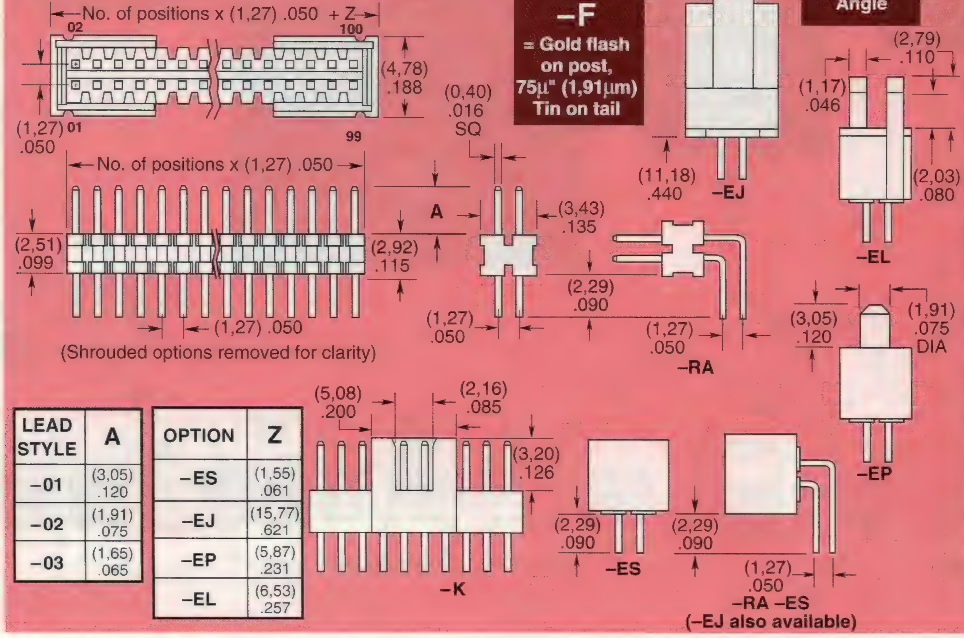

LEAD STYLE	A
–01	(3,05) .120
–02	(1,91) .075
–03	(1,65) .065

OPTION	Z
–ES	(1,55) .061
–EJ	(15,77) .621
–EP	(5,87) .231
–EL	(6,53) .257

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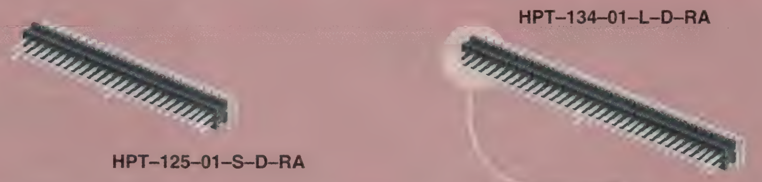
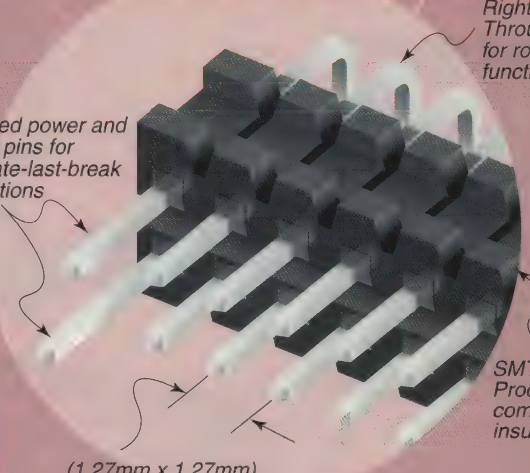


Through Hole T/H HOT PLUGGABLE HEADER HPT SERIES

(1,27mm) .050"



SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.75A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Compact Flash & PCMCIA Compatible

APPLICATION SPECIFIC OPTION

Other pin counts and post heights available. Call Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!

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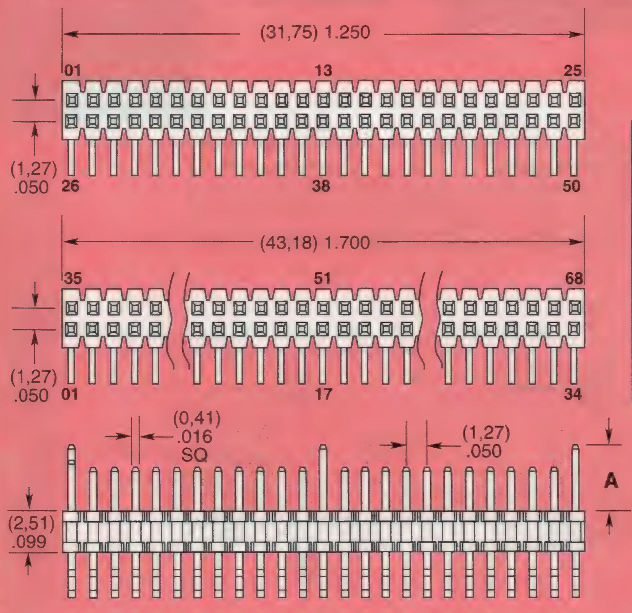
HPT	–	1	–	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA

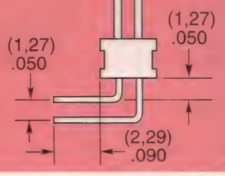
NO. PINS PER ROW:
25, 34
(Call Samtec for other sizes)

PLATING OPTION:

–L
= 10µ" (0,25µm) Gold on contact
100µ" (2,54µm) Tin on tail

–S
= 30µ" (0,76µm) Gold on contact
100µ" (2,54µm) Tin on tail





NO. PINS PER ROW	POSITION NO.	A
25	25, 26	(3,50) .138
	01, 13, 38, 50	(5,00) .197
	ALL OTHERS	(4,25) .167
34	01, 17, 34, 35, 51, 68	(5,00) .197
	36, 37	(3,50) .138
	ALL OTHERS	(4,25) .167

2 x 25 position is Compact Flash compatible.
2 x 34 position is PCMCIA compatible.

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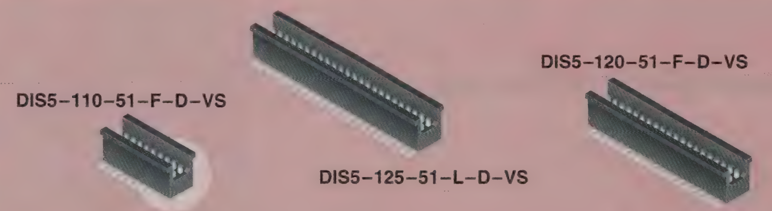


Surface **SMT** Mount

T/H Page 69

ZERO PROFILE HEADER DIS5 SERIES

SPECIFICATIONS

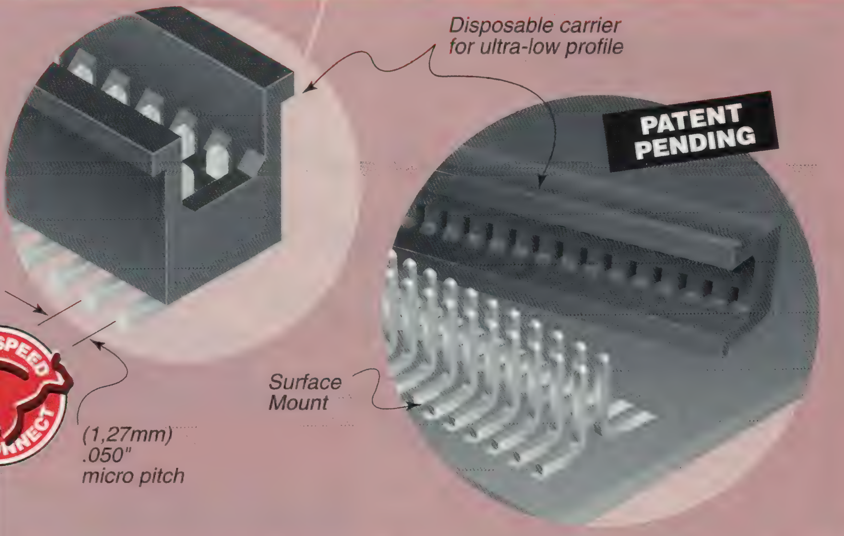
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.75A @80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ"
(1,27µm) Ni

(1,27mm) .050"

Mates with:
FFSD, CLP, FLE

APPLICATION SPECIFIC OPTION
Alignment pins available.
Call Samtec.



HIGH SPEED INTERCONNECT

Mated with CLP
Impedance:
53Ω average @ 500 MHz
(system @ 50Ω)
Propagation Delay:
50pS @ 500pS
Cross Talk:
-60 dB S/G/S @ 1 GHz
-16 dB G/S/S/G @ 1 GHz

DIS5 – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – VS – OPTION

NO. PINS PER ROW: 05, 08, 10, 12, 13, 15, 20 & 25
(Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

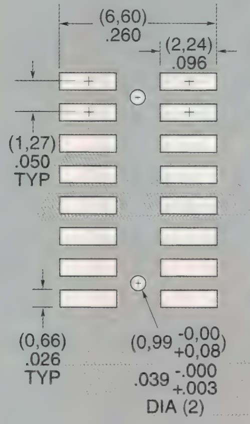
PLATING OPTION:
–L = 10µ" (0,25µm) Gold post 150µ" (3,81µm) Tin tail
–F = Gold flash on contact, 150µ" (3,81µm) Tin tail

OPTION:
–K = (6,48mm) .255" DIA Polyimide film Pick & Place Pad

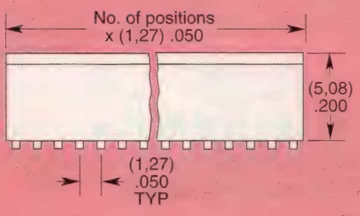
Note: Some lengths, styles and options are non-standard, non-returnable.

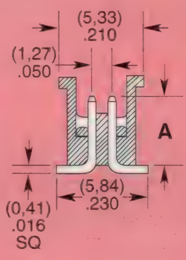
Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested PCB Layouts:
Your specific layout may vary

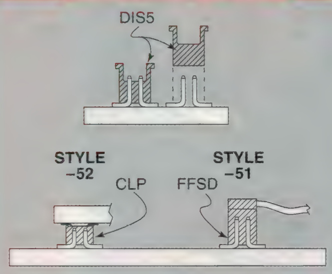


LEAD STYLE	A	MATES WITH
–51	(3,05) .120	FLE, FFSD
–52	(1,91) .075	FLE, CLP





APPLICATIONS



SOCKET	MATED HEIGHT
CLP	(2,90) .114
FLE	(5,18) .204
FFSD	(5,72) .225

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F-198-2

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POPULAR CONNECTORS Ship in 3 DAYS

Through T/H Hole

SMT Page 68

ZERO PROFILE HEADER DIS5 SERIES

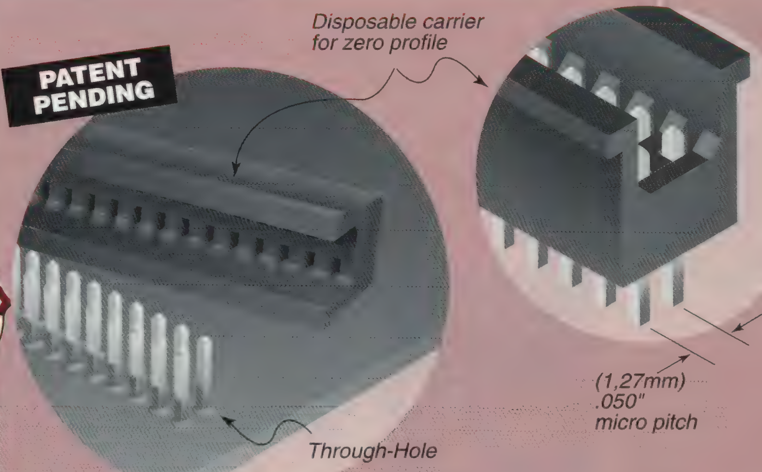
SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
1.75A @80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ"
(1,27µm) Ni

Mates with:
FFSD, CLP, FLE

PATENT PENDING



HIGH SPEED INTERCONNECT

(1,27mm) .050"

Mated with CLP

Impedance:
53Ω average @ 500 MHz
(system @ 50Ω)
Propagation Delay:
50pS @ 500pS
Cross Talk:
-60 dB S/G/S @ 1 GHz
-16 dB G/S/S/G @ 1 GHz

Note: Some lengths, styles and options are non-standard, non-returnable.

DIS5 – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D

NO. PINS PER ROW: 05, 08, 10, 12, 13, 15, 20, 25
(Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:

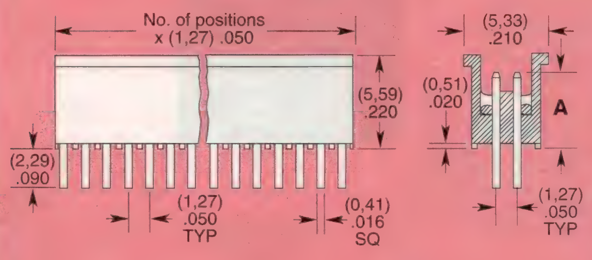
–L
= 10µ" (0,25µm) Gold post
150µ" (3,81µm) Tin tail

–F
= Gold flash on contact,
150µ" (3,81µm) Tin tail

Processing:

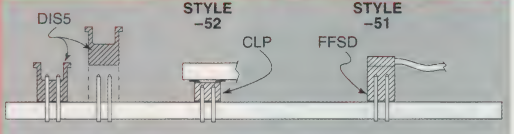
Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE



LEAD STYLE	A	MATES WITH
–51	(3,05) .120	FLE, FFSD
–52	(1,91) .075	FLE, CLP

APPLICATIONS



SOCKET	MATED HEIGHT
CLP	(2,49) .098
FLE	(4,93) .194
FFSD	(5,45) .215

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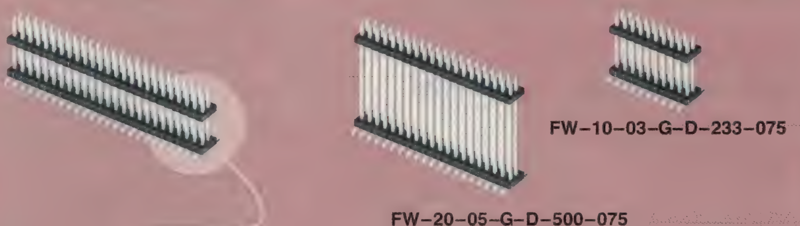
F-198-2

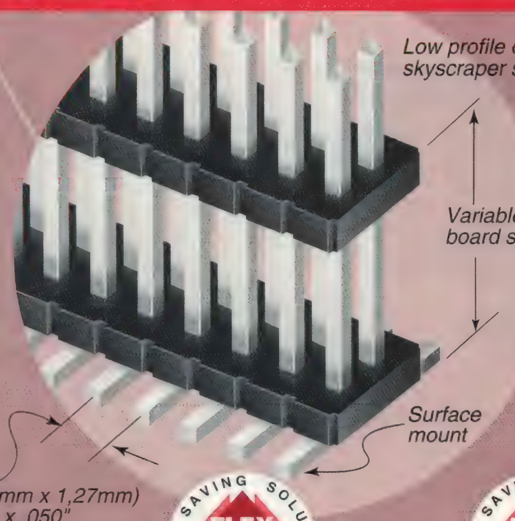
POPULAR CONNECTORS Ship in 3 DAYS



Surface **SMT** Mount

T/H Page 71

.050" BOARD STACKER FW SERIES



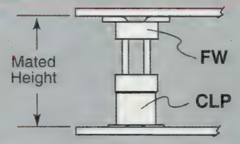
SPECIFICATIONS

Mates with: CLP, FFSD, SFMC (LIF), FLE

Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 1.75A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Sn or Au over 50µ" (1,27µm) Ni

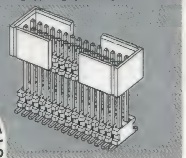
APPLICATIONS



Lead Style FW	CLP	Mated Height
FW-XX-03-X-X-163-065	– 02	(6,35) .250
FW-XX-03-X-X-233-065		(8,13) .320
FW-XX-03-X-X-303-065		(9,91) .390

APPLICATION SPECIFIC OPTIONS

Alignment pins, end shrouds, and end shrouds with guide posts available. Call Samtec.



(1,27mm) .050"

COST SAVING SOLUTIONS FLEX SHROUD
SEE PAGE 10

COST SAVING SOLUTIONS FLEX STACK
SEE PAGE 7

COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

Note: This Series is non-standard, non-returnable.

FW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – STACKER HEIGHT – POST HEIGHT – OPTION

02 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:

–L = 10µ" (0,25µm) Gold on post, 150µ"(3,81µm) Tin on tail

–F = Gold flash on post 150µ" (3,81µm) Tin on tail

–G = 10µ" (0,25µm) Gold on post, Gold flash on tail

STACKER HEIGHT: –"XXX" = Stacker Height (in inches)
Example: –250 = (6,35mm) .250"

POST HEIGHT: –"XXX" = Post Height (in inches)
(1,65mm) .065" minimum
Example: –065 = (1,65mm) .065"

OPTION:

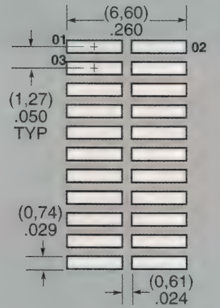
–A = Alignment Pin (3 positions minimum) (Metal or plastic at Samtec discretion) (5,46mm) .215" to (15,75mm) .620" stacker height only

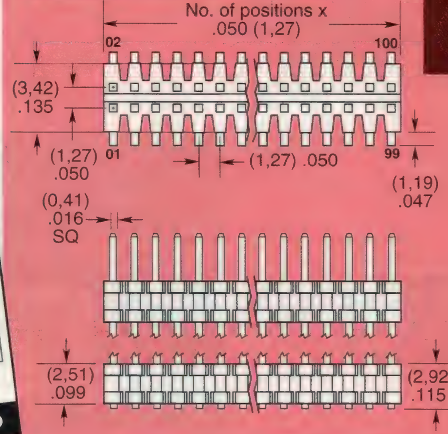
–P = Pick & Place Pad (5 positions minimum)

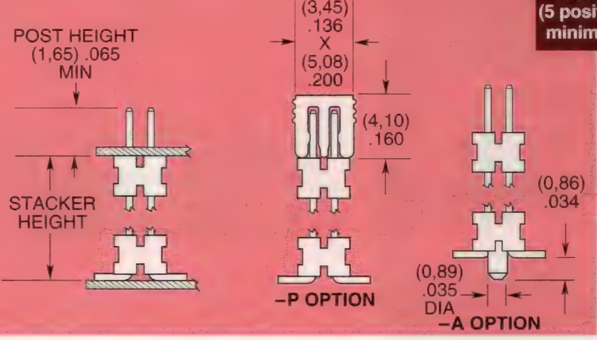
LEAD STYLE	STACKER HEIGHT	STACKER + POST
–03	(5,46) .215 to (8,51) .335	(7,11) .280 to (10,16) .400
–05	(8,64) .340 to (15,49) .610	(10,29) .405 to (17,15) .675

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested PCB Layouts: Your specific layout may vary







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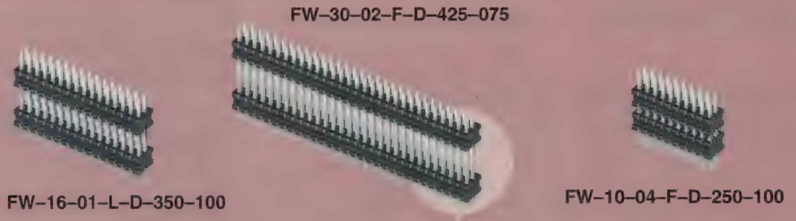
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole | SMT Page 70

.050" BOARD STACKER FW SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer

Terminal Material: Phosphor Bronze

Current Rating: 1.75A @ 80°C ambient

Operating Temp Range: -65°C to +125°C

Plating: Sn or Au over 50µ" (1,27µm) Ni

Mates with: CLP, FFSD, SFMC (LIF), FLE

Note: This Series is non-standard, non-returnable.

Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!

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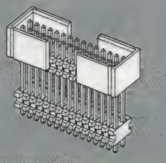
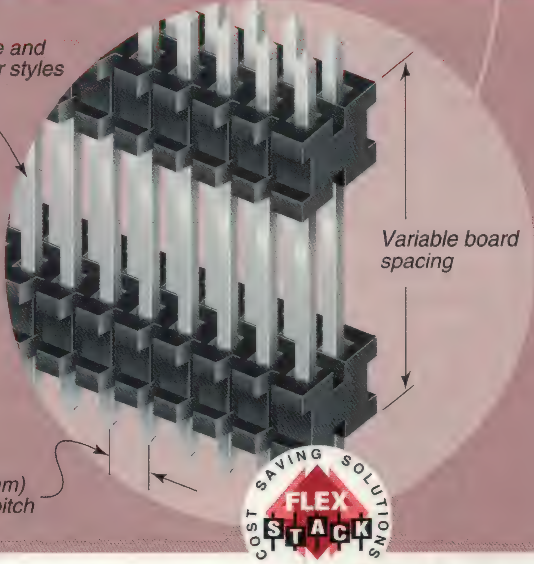
APPLICATION SPECIFIC OPTIONS

Alignment pins, end shrouds, and end shrouds with guide posts available. Call Samtec.



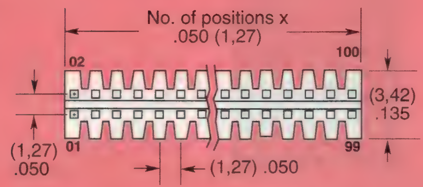
COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10

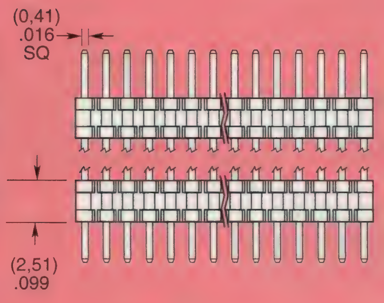


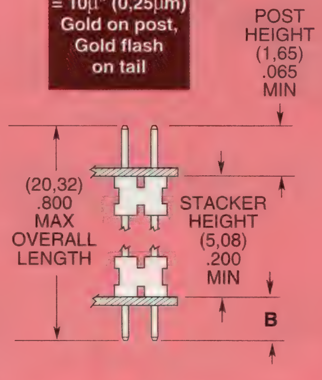
COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

(1,27mm) .050"

FW	-	NO. PINS PER ROW	-	LEAD STYLE	-	PLATING OPTION	-	D	-	STACKER HEIGHT	-	POST HEIGHT
		02 thru 50		Specify LEAD STYLE from chart		–L = 10µ" (0,25µm) Gold on post, 150µ" (3,81µm) Tin on tail –F = Gold flash on post 150µ" (3,81µm) Tin on tail –G = 10µ" (0,25µm) Gold on post, Gold flash on tail				–"XXX" = Stacker Height (in inches) Example: –250 = (6,35mm) .250"		–"XXX" = Post Height (in inches) (1,65mm) .065" minimum Example: –065 = (1,65mm) .065"

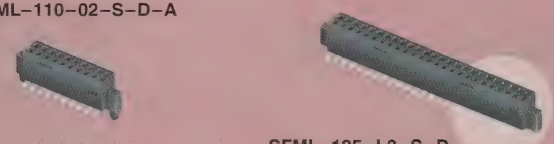






LEAD STYLE	TAIL (B)
–01	(1,14) .045
–02	(1,91) .075
–04	(2,29) .090

samtec



LOCKING SOCKET SFML SERIES

SPECIFICATIONS

Mates with:
TFML

Materials:

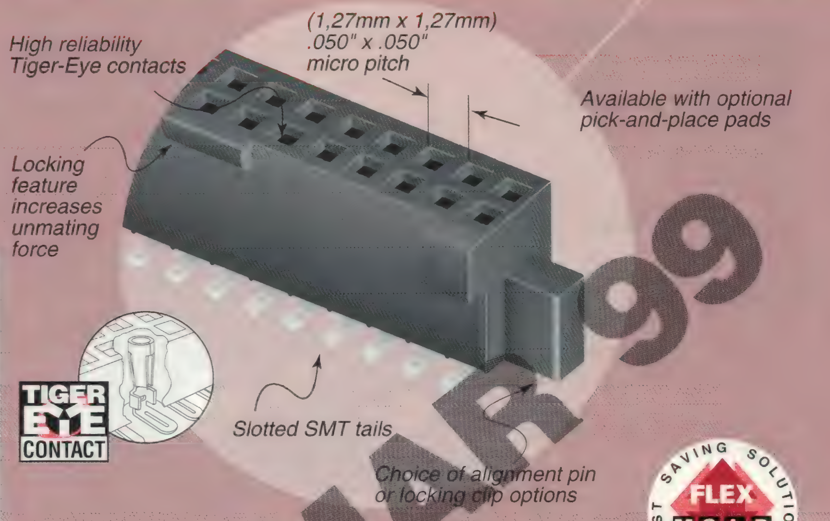
Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Contact Resistance: 15 mΩ max
Insertion Depth: (3,05mm) .120" to (4,06mm) .160"
Insertion Force: Standard= 5oz (1,39N) avg; LIF= 2.0oz (0,56N) avg.
Normal Force: Standard= 70g (0,69N) avg; LIF= 40g (0,39N) avg.
Withdrawal Force: Standard = Testing Now! LIF = Testing Now!
Max Cycles: 100 with 10µ" (0,25µm) Au
Locking Features: 10 & 15 = One Latch; 20-30 = Two Latches; 35-50 = Three Latches

Note: Some sizes, styles and options are non-standard, non-returnable.

(1,27mm) .050"

HIGH SPEED INTERCONNECT

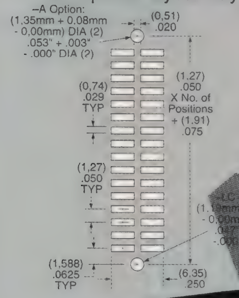
Mated with TFML
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1MHz
Inductance: 7.0nH average @ 1MHz
Propagation Delay: 57pS @ 1:183pS @ 7:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time



COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: 10-25 = (0,10mm) .004" max; 30-50 = (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

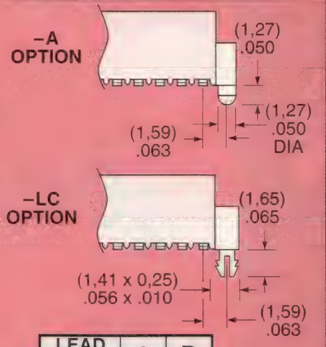
SFML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OPTION

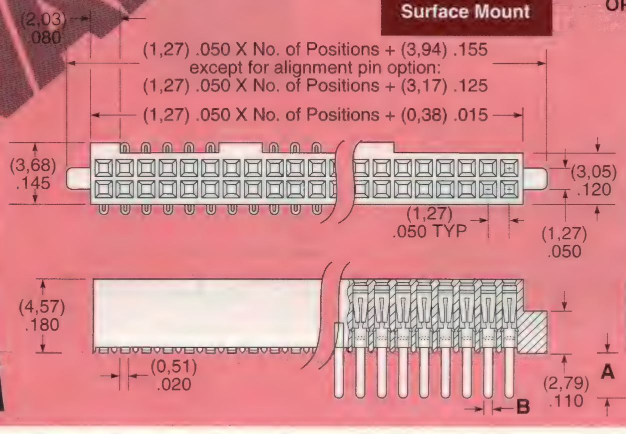
NO. PINS PER ROW
10, 15, 20, 25, 30, 35, 40, 45, 50
(Call Samtec for other sizes)

LEAD STYLE
- **–01, –03** = Through-hole
- **–L1, –L3** = Low Insertion Force Through-hole
- **–02** = Surface Mount
- **–L2** = Low Insertion Force Surface Mount

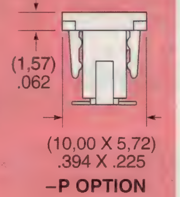
PLATING OPTION
- **–S** = 30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin tail

OPTION
- **–A** = Alignment Pin (Metal or plastic at Samtec discretion) (N/A with –LC)
- **–LC** = Locking Clip (N/A with –A)
- **–P** = Pick & Place Pad
- **–K** = (4,00mm) .157" DIA Polyimide film Pick & Place Pad
- **–TR** = Tape & Reel (–02 & –L2 only)





LEAD STYLE	A	B
–01, –L1	(3,05) .120	(0,51) .020
–03, –L3	(1,91) .075	(0,41) .016



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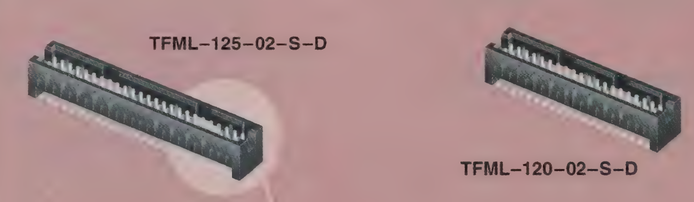


LOCKING HEADER TFML SERIES

SPECIFICATIONS

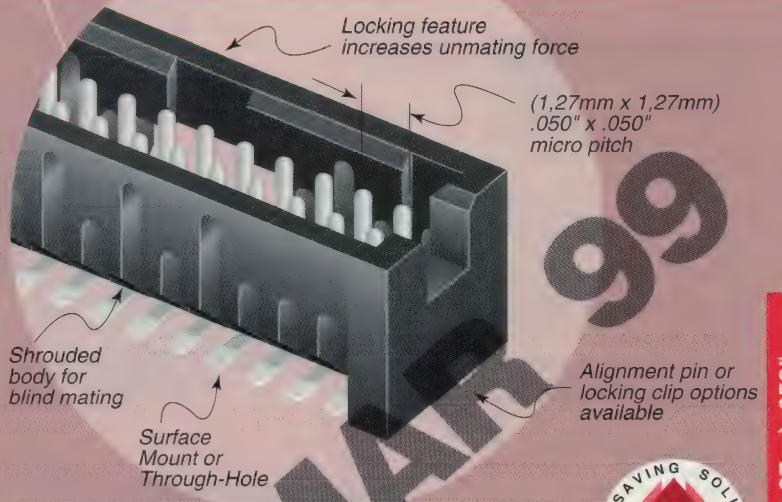
Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 50µ" (1,27µm) Ni
Locking Features:
10 & 15 = One Latch
20-30 = Two Latches
35-50 = Three Latches

Mates with: SFML

HIGH SPEED INTERCONNECT

Mated with SFML
Impedance: 48Ω average @ 500pS rise time (system @ 50Ω)
Capacitance: 0.4pF average @ 1 MHz
Inductance: 7.0nH average @ 1 MHz
Propagation Delay: 57pS @ 1:1; 83pS @ 7:1
Cross Talk: -26.0 dB G/S/S/G @ 500pS rise time



COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

(1,27mm) .050"

Note: Some sizes, styles and options are non-standard, non-returnable.

TFML - 1 - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - D - OPTION

NO. PINS PER ROW: 10, 15, 20, 25, 30, 35, 40, 45, 50 (Call Samtec for other sizes)

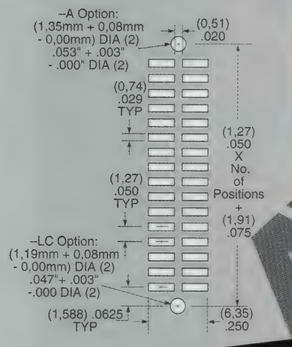
LEAD STYLE:
- **-01** = Through-Hole
- **-02** = Surface Mount

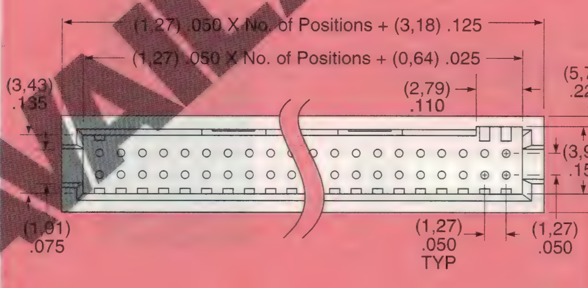
PLATING OPTION:
- **-S** = 30µ" (0,76µm) Gold post, 150µ" (3,81µm) Tin tail

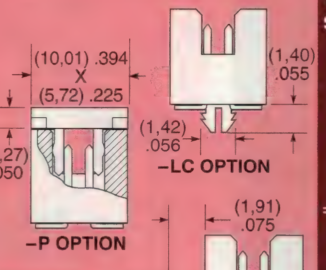
OPTION:
- **-RA** = Right Angle (Style -01 only)
- **-A** = Alignment Pin Metal or plastic at Samtec discretion. (N/A with -LC)
- **-LC** = Locking Clip (N/A with -A)
- **-P** = Pick & Place Pad
- **-TR** = Tape & Reel (Style -02 only)
- **-K** = (6,75mm) .266" DIA Polyimide film Pick & Place Pad

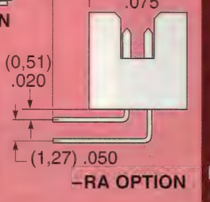
Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity:
10-25 = (0,10mm) .004" max
30-50 = (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary

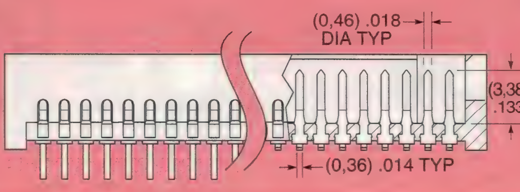


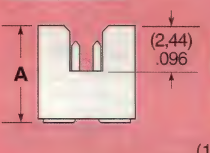


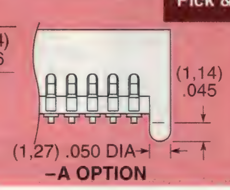




LEAD STYLE	A
-01	(5,59) .220
-02	(5,72) .225







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AVAILABLE MAR 99

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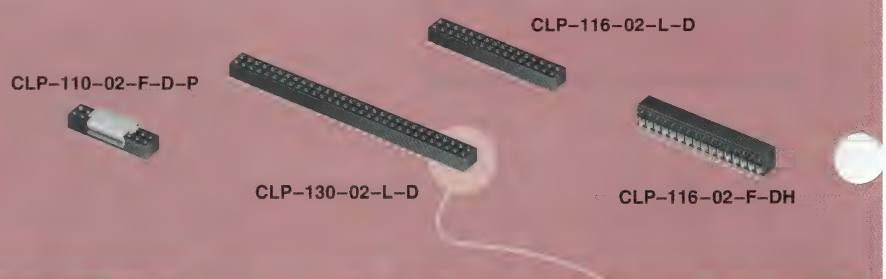


Surface SMT Mount

LOW PROFILE SOCKETS CLP SERIES

SPECIFICATIONS

Materials:

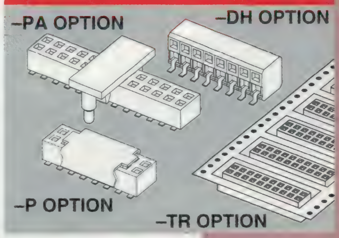
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 1.75A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: Top Entry = .055" (1,40mm) minimum, Bottom Entry = (2,21mm) .087" minimum plus board thickness DH Entry = (2,31mm) .091" to (2,67mm) .105"
Insertion Force: 3oz (0,83N) average
Normal Force: 25 grams (0,24N) average
Withdrawal Force: 2oz (0,56N) average
Max Cycles: 100 with 10µ" (0,25µm) Au

Note: Some sizes, styles and options are non-standard, non-returnable.

(1,27mm) .050"

Mates with: FTSH, FTS, FW, DIS5

OPTIONS



APPLICATION SPECIFIC OPTION

Alignment pins available. Call Samtec.

Mated with FTSH

Impedance: 53Ω average @ 500 MHz (system @ 50Ω)
Propagation Delay: 50pS @ 500pS
Cross Talk: -60 dB S/G/S @ 1 GHz; -16 dB G/S/S/G @ 1 GHz

CLP – 1 NO. PINS PER ROW – 02 – PLATING OPTION – ROW OPTION – OTHER OPTION

02 thru 50

PLATING OPTION

- **–G** = 10µ" (0,25µm) Gold (most cost-effective option)
- **–F** = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin on tail
- **–L** = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail

ROW OPTION

- **–D** = Double Row
- **–DH** = Double Horizontal

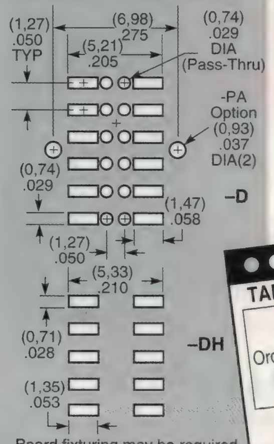
OTHER OPTION

- **–BE** = Bottom Entry (Required for bottom entry applications)
- **–P** = Pick & Place Pad (5 positions minimum, –D only) (Not always necessary for auto placement. See Flex Processing.)
- **–K** = (4,00mm) .157" DIA Polyimide film Pick & Place Pad (5 positions minimum)
- **–PA** = Pick & Place Pad with Alignment Pin (–D only)
- **–TR** = Tape & Reel

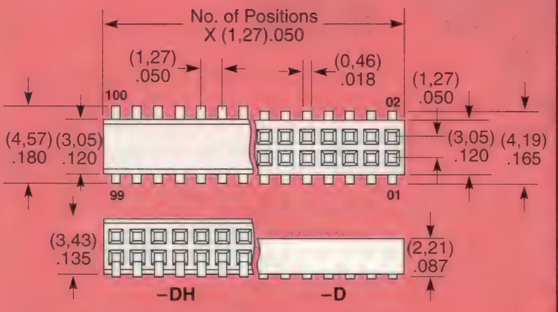
COST SAVING SOLUTIONS FLEX PROCESSING SEE PAGE 17

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: 02-35 = (0,10mm) .004" max; 36-50 = (0,15mm) .006" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



Board fixturing may be required to assure proper alignment for pass-through applications.



TAPE & REEL AVAILABILITY
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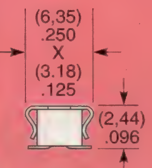
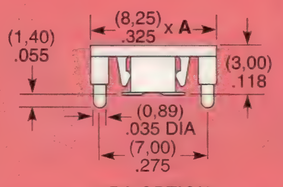


–P OPTION



–PA OPTION

PIN/ROW	A
04-15	(3,56) .140
16-50	(7,11) .280

Alignment pins are located about centerline of the part. If odd pins/row then on middle position. If even then between middle two positions.

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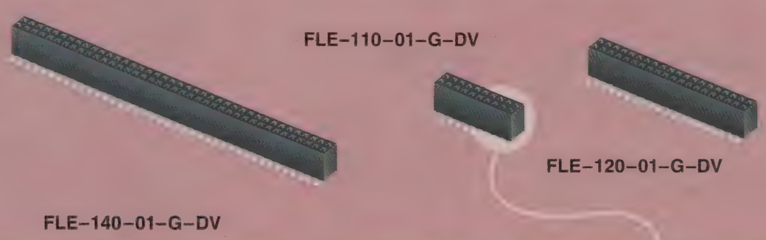


Surface **SMT** Mount

STANDARD SOCKET FLE SERIES

SPECIFICATIONS

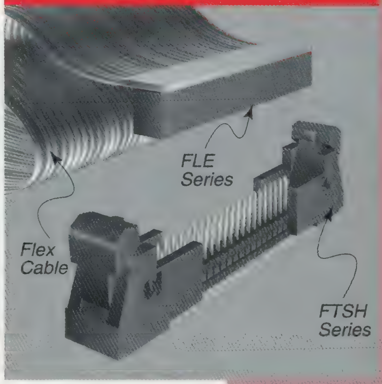
Mates with: FTSH, FTS, FW, DIS5

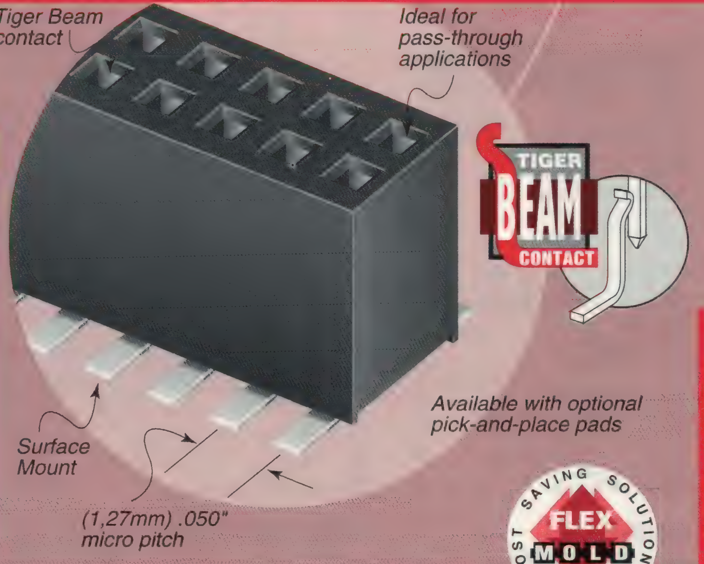
Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 1.75A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Au over 10µ" (0,25µm) Ni
Contact Resistance: 15mΩ max
Insertion Depth: (1,83mm) .072" to (4,37mm) .172" with (0,38mm) .015" wipe, or pass-through
Insertion Force: 1.5oz (0,42N)
Normal Force: 100 grams (0,98N) @ .005" (0,13mm) deflection
Withdrawl Force: 1.5oz (0,42N)
Max Cycles: 100+

Note: Some lengths, styles and options are non-standard, non-returnable.

APPLICATION





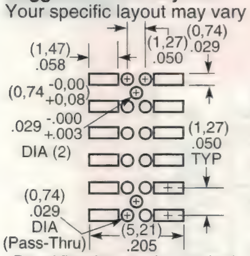
COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

(1,27mm) .050"

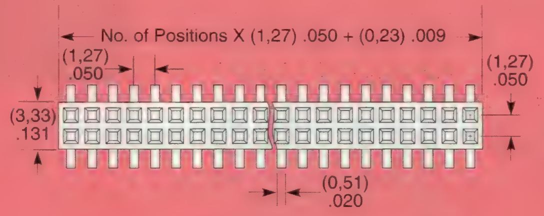
FLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTIONS
			05 thru 50				–G = 10µ" (0,25µm) Gold				–A = Alignment Pin (Metal or plastic at Samtec discretion) –P = Pick & Place Pad (5 positions minimum) –K = (4,00mm) .157" DIA Polyimide film Pick & Place Pad (5 positions minimum) –TR = Tape & Reel Packaging

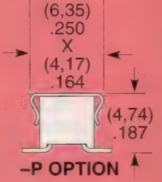
Processing:

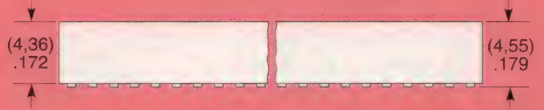
Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary

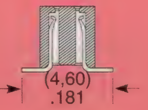


Board fixturing may be required to assure proper alignment for pass-through applications.









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POPULAR CONNECTORS Ship Next DAY

Through T/H Hole SMT See FTR

(1,27mm) .050" HEADER TMS, HTMS, SNM SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Important Note:
Style -02 does not mate with SMS Series.
Style -02 with -S plating should not be mated with SLM Series.

SNM

Same as HTMS except:
Insulator Material:
Black Glass Filled Polyester
Max Processing Temp:
Not recommended for IR/VP
Contact Resistance:
10 mΩ max
Lead Size accepted:
(0,46mm) .018" SQ
Insertion Depth:
(3,43mm) .135" minimum

Note: Some lengths, styles and options are non-standard, non-returnable.

.050" X .100"

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!
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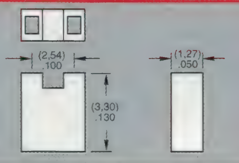
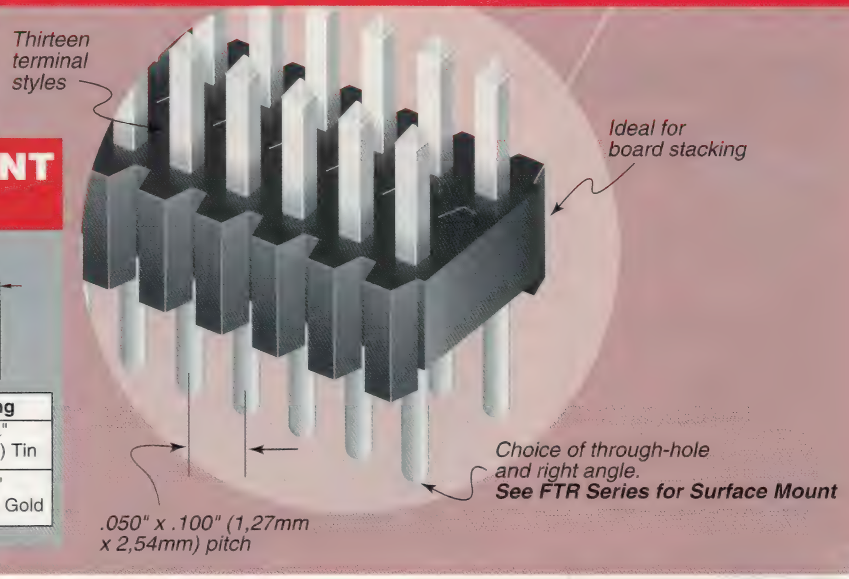
Mates with:
SMS, SLM, RSM

MICRO SHUNT
SNM SERIES



Part No.	Plating
SNM–100–BK–T	200µ" (5,08µm) Tin
SNM–100–BK–G	10µ" (0,25µm) Gold



TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

TYPE STRIP
TMS = Standard
HTMS = High Temp

NO. PINS PER ROW
01 thru 50

LEAD STYLE
Specify LEAD STYLE from chart

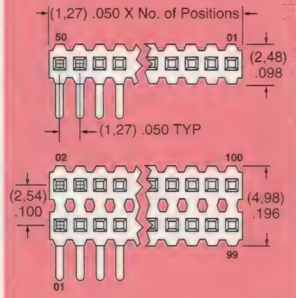
PLATING OPTION
–G = 10µ" (0,25µm) Gold post Gold flash tail
–S = 30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin tail
–T = 150µ" (3,81µm) Tin

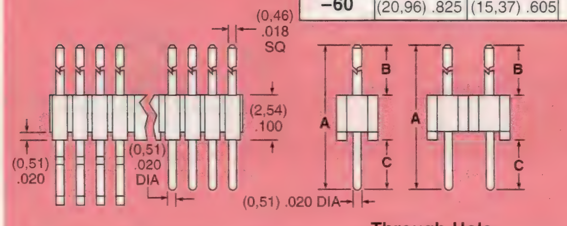
ROW OPTION
–S =Single Row
–D =Double Row

OPTION
–"XXX" = Polarized Position Specify position of omitted pin
–RA =Right Angle

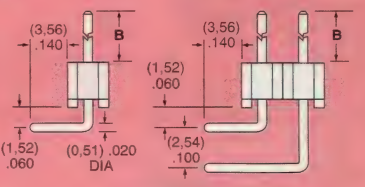
T/H LEAD STYLE	A	B	C
–01	(11,43) .450	(5,84) .230	(3,05) .120
–02	(8,13) .320	(2,54) .100	
–21	(12,83) .505	(5,84) .230	(4,45) .175
–51	(10,41) .410	(4,83) .190	(3,05) .120
–52	(10,80) .425	(5,21) .205	
–53	(12,83) .505	(7,24) .285	
–54	(14,10) .555	(8,51) .335	
–55	(15,49) .610	(9,91) .390	
–56	(15,88) .625	(10,29) .405	
–57	(16,51) .650	(10,92) .430	
–58	(17,91) .705	(12,32) .485	
–59	(19,18) .755	(13,59) .535	
–60	(20,96) .825	(15,37) .605	

RA LEAD STYLE	B
–01	(5,84) .230
–02	(2,54) .100
–03	(3,18) .125





Through-Hole



Right Angle

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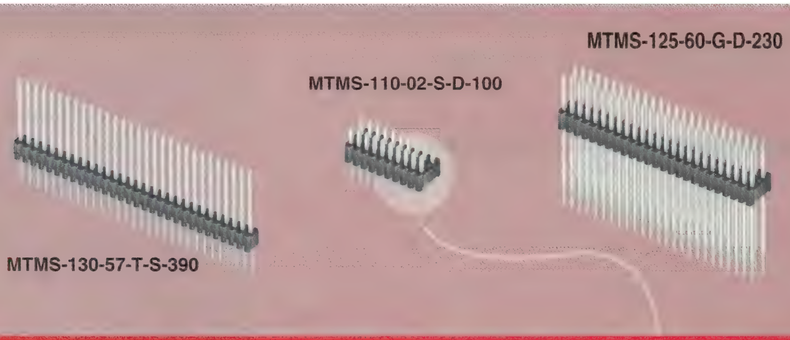

Through T/H Hole

MODIFIED HEADER MTMS SERIES

SPECIFICATIONS

Mates with:
SMS, SLM, RSM

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to + 105°C with Tin
-65°C to + 125°C with Gold
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Note: This Series is non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

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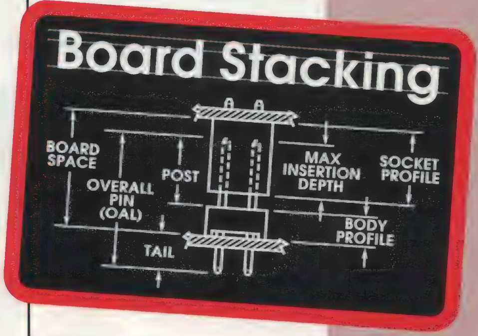
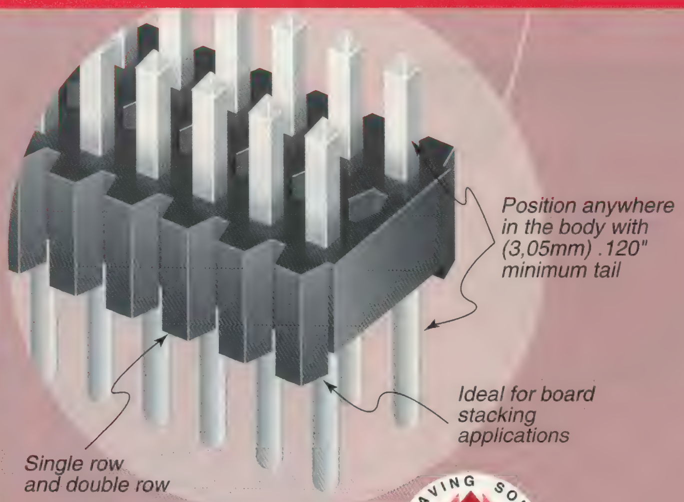
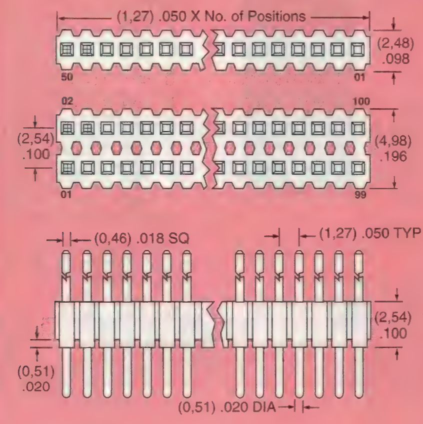




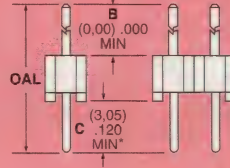
COST SAVING SOLUTIONS FLEX STACK
SEE PAGE 7

TYPE STRIP	– 1	NO. PINS PER ROW	– LEAD STYLE	– PLATING OPTION	– ROW OPTION	– POST HEIGHT	– OPTION
MTMS = Modified Standard **HMTMS** = Modified High Temp		01 thru 50	Specify LEAD STYLE from chart	**–G** =10µ" (0,25µm) Gold post Gold flash on tail **–S** =30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin tail **–T** =150µ" (3,81µm) Tin	**–S** =Single Row **–D** =Double Row	**–"XXX"** ="B" Dimension (Specify Post Height in inches (0,13mm) .005" increments)	**–"XXX"** = Polarized Position Specify position of omitted pin

.050" X .100"



Tail DIA is .020" (0,51mm) for min .120" (3,05mm).
Balance of tail is .018" (0,46mm) SQ.



LEAD STYLE	OAL	B (Maximum when C = .120 (3,05))
–01	(11,43) .450	(5,84) .230
–02	(8,13) .320	(2,54) .100
–25*	(8,38) .330	(3,18) .125
–51	(10,41) .410	(4,83) .190
–52	(10,80) .425	(5,21) .205
–53	(12,83) .505	(7,24) .285
–54	(14,10) .555	(8,51) .335
–55	(15,49) .610	(9,91) .390
–56	(15,88) .625	(10,29) .405
–57	(16,51) .650	(10,92) .430
–58	(17,91) .705	(12,32) .485
–59	(19,18) .755	(13,59) .535
–60	(20,96) .825	(15,37) .605

*Style -25 tail C=.105 (2,67) min is available.

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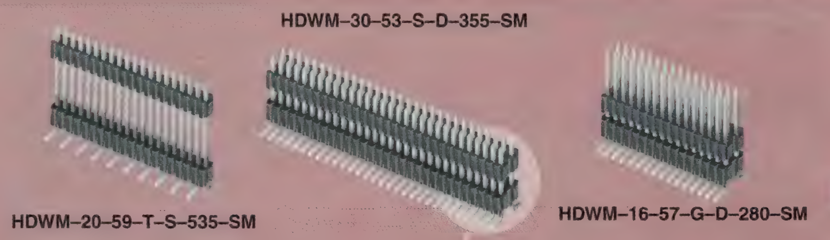
POPULAR CONNECTORS Ship Next DAY



Surface **SMT** Mount

T/H Page 79

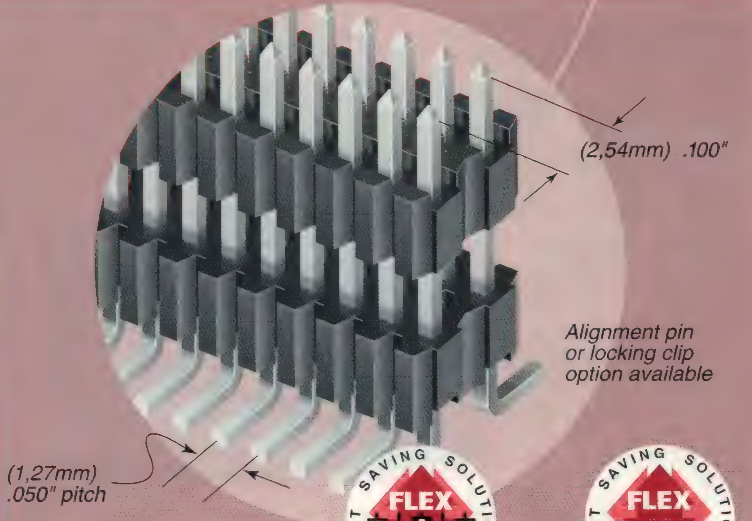
BOARD STACKER HDWM SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to + 105°C with Tin
-65°C to + 125°C with Gold
Plating:
Au or Sn over 50µ" (1,27µm) Ni

Mates with:
SMS, SLM, RSM



FLEX STACK — SEE PAGE 7

FLEX MOLD — SEE PAGE 8

.050" X .100"

Note: This Series is non-standard non-returnable.

HDWM – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – SM – OTHER OPTION

02 thru 40

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
- **–G** = 10µ" (0,25µm) Gold post Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold on post 150µ" (3,81µm) Tin on tail
- **–T** = 150µ" (3,81µm) Tin

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row

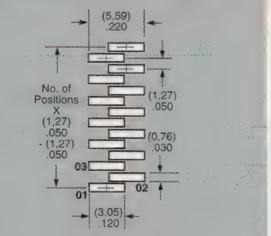
STACKER HEIGHT: **–"XXX"** = Stacker Height Example: –250 = (6,35mm) .250"

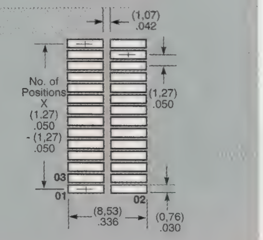
OTHER OPTION:
- **–"XXX"** = Polarized
- **–A** = Alignment Pin 6 positions minimum –D only. Metal or plastic at Samtec discretion
- **–LC** = Locking Clip 5 positions minimum. –D only
- **–P** = Pick & Place Pad

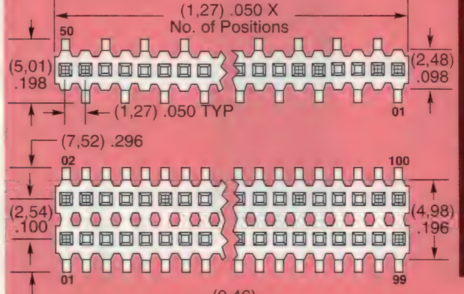
LEAD STYLE	OAL
–01	(8,38) .330
–53	(9,78) .385
–54	(11,05) .435
–55	(12,45) .490
–56	(12,83) .505
–57	(13,46) .530
–58	(14,86) .585
–59	(15,62) .615

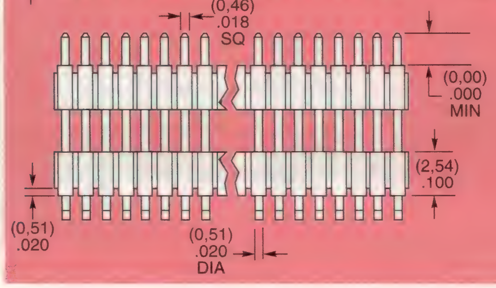
Processing:

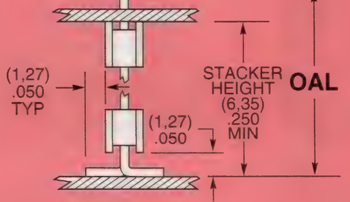
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
.006" (0,15mm) max
Suggested PCB Layouts:
Your specific layout may vary











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F-198-2

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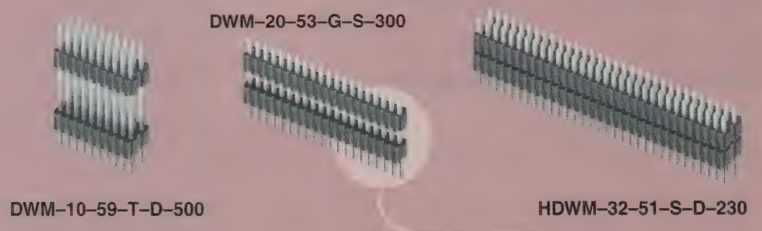
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

SMT Page 78

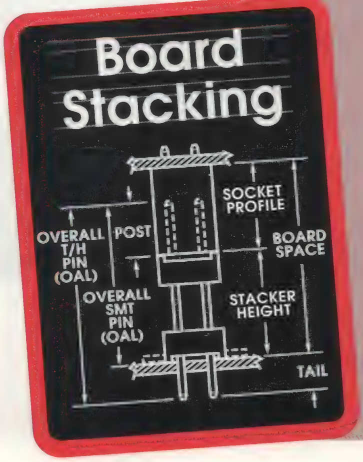
BOARD STACKER DWM, HDWM SERIES

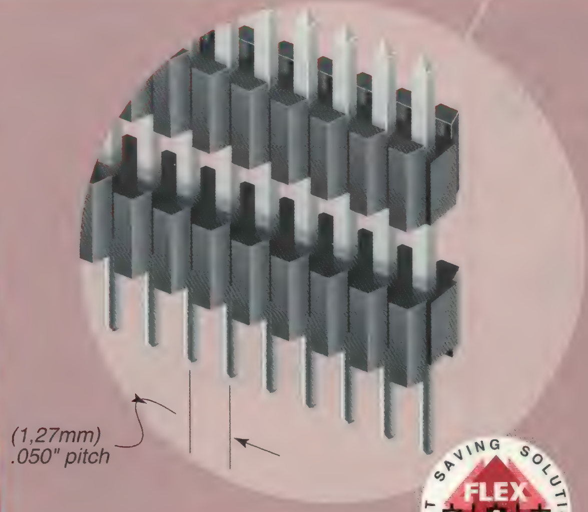
SPECIFICATIONS

Mates with: SMS, SLM, RSM

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to + 105°C with Tin
-65°C to + 125°C with Gold
Plating:
Au or Sn over 50µ" (1,27µm) Ni





COST SAVING SOLUTIONS FLEX STACK

SEE PAGE 7

Note: These Series are non-standard non-returnable.

TYPE STRIP	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	OTHER OPTION
DWM = Standard Board Spacer HDWM = High Temp Board Spacer	01 thru 50	Specify LEAD STYLE from chart	–G = 10µ" (0,25µm) Gold post Gold flash on tail –S = 30µ" (0,76µm) Gold on post 150µ" (3,81µm) Tin on tail –T = 150µ" (3,81µm) Tin	–S = Single Row –D = Double Row	–"XXX" = Stacker Height Example: –250 = (6,35mm) .250"	– "XXX" = Polarized Position Specify position of omitted pin

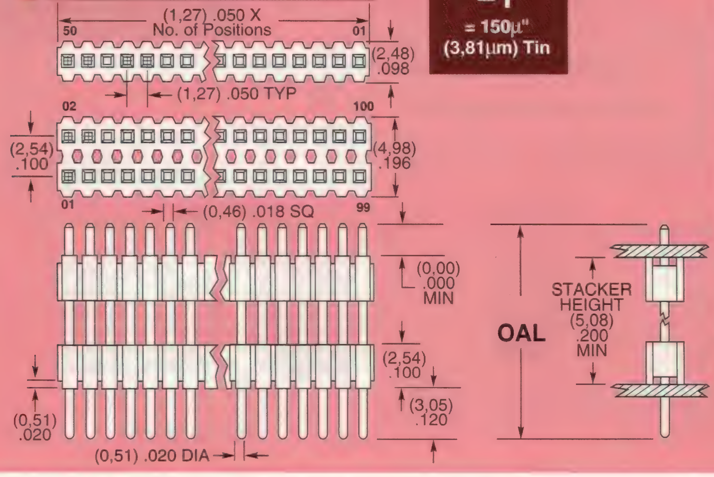
.050" X .100"

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS! www.samtec.com



LEAD STYLE	OAL
–01	(11,43) .450
–51	(10,41) .410
–52	(10,80) .425
–53	(12,83) .505
–54	(14,10) .555
–55	(15,49) .610
–56	(15,88) .625
–57	(16,51) .650
–58	(17,91) .705
–59	(19,18) .755
–60	(20,96) .825
–61	(26,67) 1.050

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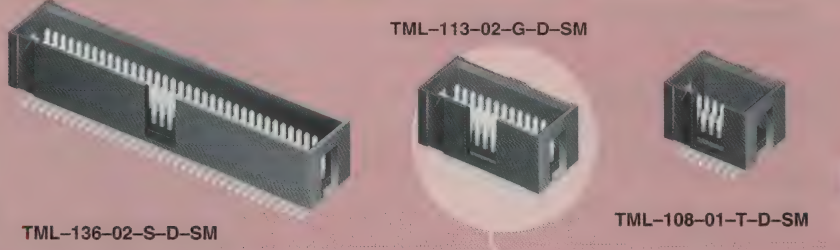
POPULAR CONNECTORS Ship in 3 DAYS



Surface **SMT** Mount

T/H Page 81

SHROUDED HEADER TML SERIES

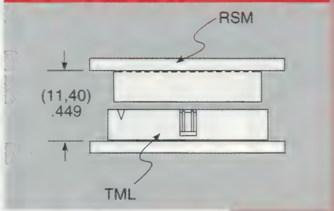
SPECIFICATIONS

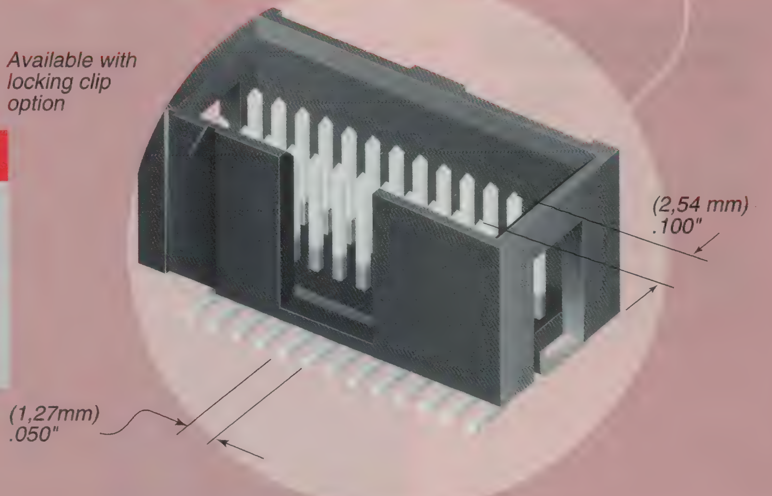
Mates with: RSM, SMS

Materials:

Insulator Material:
Black LCP
Insulation Resistance:
5000 MΩ min
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

APPLICATIONS



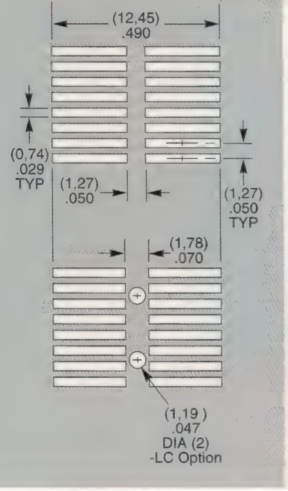


Note:
Some sizes, styles and options are non-standard, non-returnable.

.050" X .100"

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
.006" (0,15mm) max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



TML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – SM – OTHER OPTION

NO. PINS PER ROW:
–05, –08, –10, –13, –17, –20, –25, –30, –32, –36, –40
(Call Samtec for other sizes)

LEAD STYLE:
Specify LEAD STYLE from chart

PLATING OPTION:

–G
= 10µ" (0,25µm) Gold post Gold flash on tail

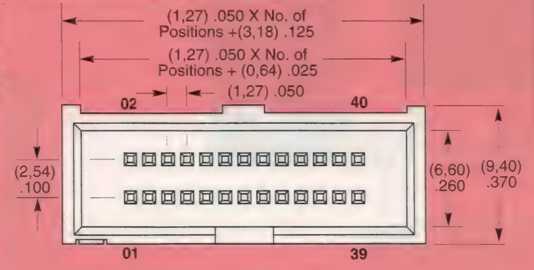
–S
= 30µ" (0,76µm) Gold on posts 150µ" (3,81µm) Tin on Tail

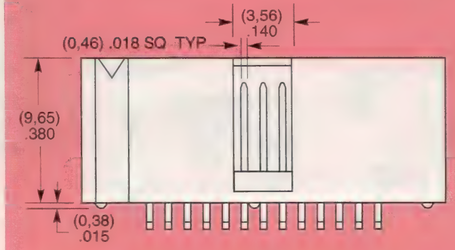
–T
= 150µ" (3,81µm) Tin

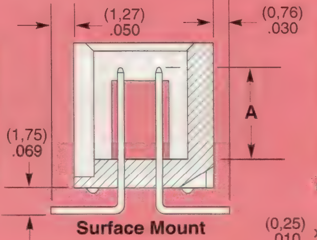
OTHER OPTION:

–LC
= Locking Clip

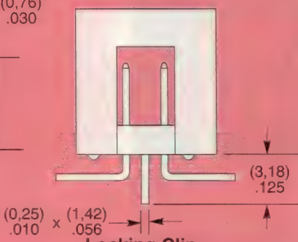
LEAD STYLE	POST HEIGHT (A)
–01	(3,05) .120
–02	(5,84) .230







Surface Mount



Locking Clip

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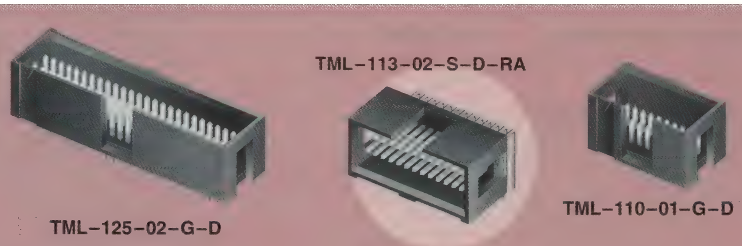
POPULAR CONNECTORS Ship in 3 DAYS



Through Hole T/H

SMT Page 80

SHROUDED HEADER TML SERIES

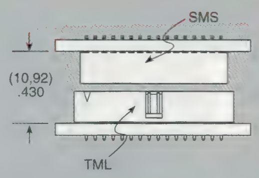
SPECIFICATIONS

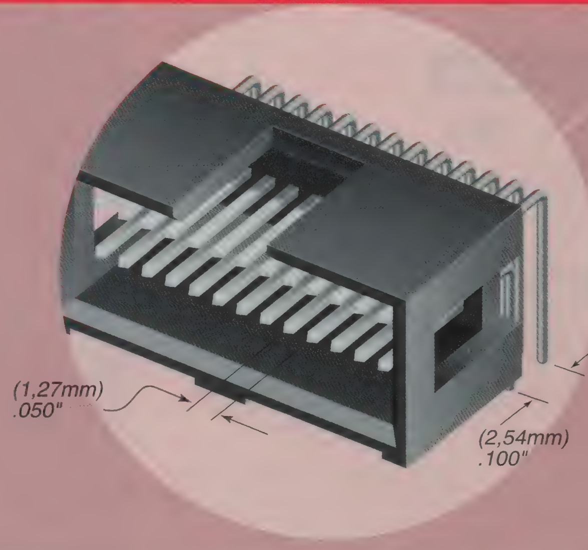
Materials:

Insulator Material: Black LCP
Insulation Resistance: 5000 MΩ min
Terminal Material: Phosphor Bronze
Current Rating: 1A
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

Mates with: SMS, RSM

APPLICATIONS





Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:
Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

TML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – TAIL OPTION

.050" X .100"

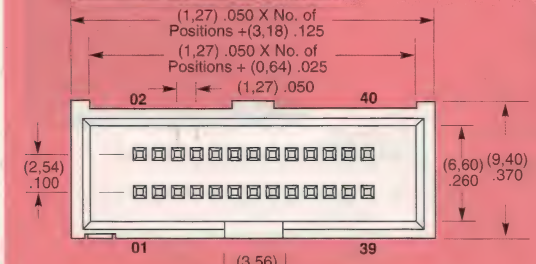
NO. PINS PER ROW: –05, –08, –10, –13, –17, –20, –25, –30, –32, –36, –40 (Call Samtec for other sizes)

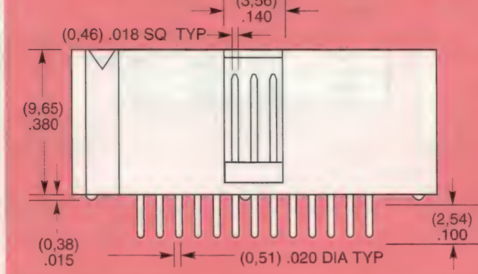
LEAD STYLE: Specify LEAD STYLE from chart

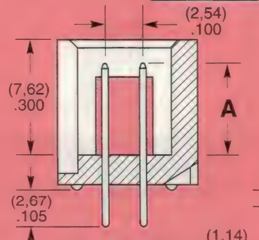
PLATING OPTION:
- **–G** = 10µ" (0,25µm) Gold post Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold on posts 150µ" (3,81µm) Tin on Tail
- **–T** = 150µ" (3,81µm) Tin

TAIL OPTION:
- **–RA** = Right Angle

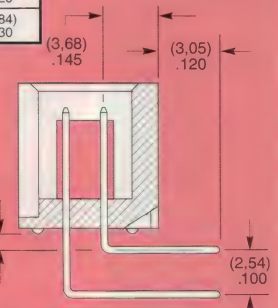
LEAD STYLE	POST HEIGHT (A)
–01	(3,05) .120
–02	(5,84) .230







Through-Hole



Right Angle

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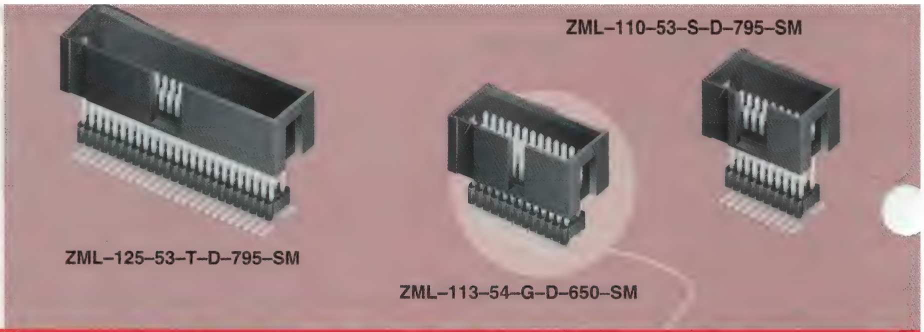
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 83

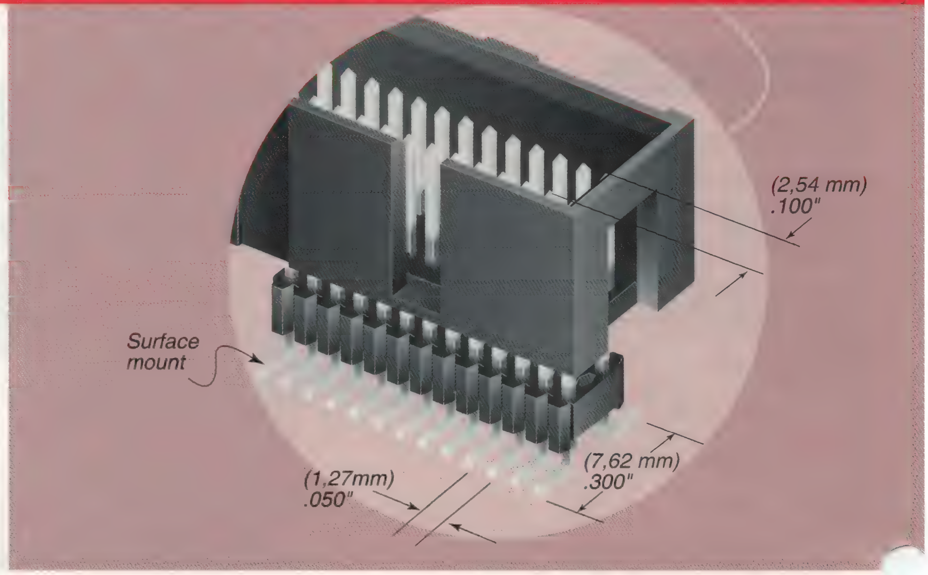
(1,27mm) .050" STACKER ZML SERIES

SPECIFICATIONS

Mates with:
SMS, RSM

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

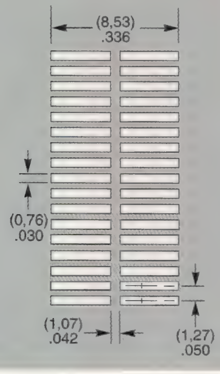


.050" X .100"

Note: This Series is non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
05-20 = (0,10mm) .004" max
25-40 = (0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



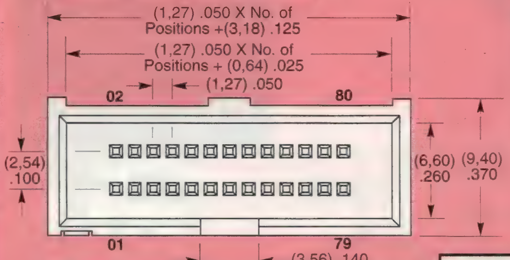
ZML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – SM

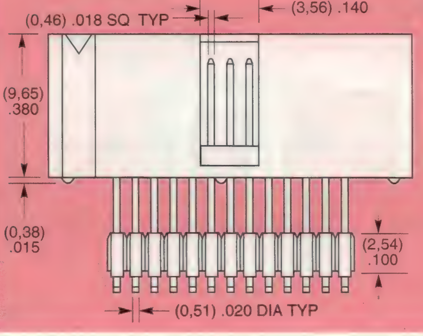
–05, –08, –10, –13, –17, –20, –25, –30, –32, –36, –40 (Call Samtec for other sizes)

LEAD STYLE: Specify LEAD STYLE from chart

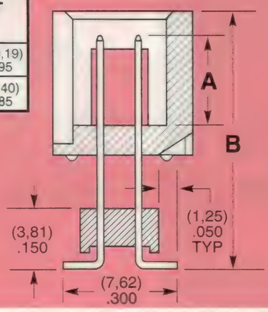
PLATING OPTION:
–G = 10µ" (0,25µm) Gold post Gold flash on tail
–S = 30µ" (0,76µm) Gold on posts 150µ" (3,81µm) Tin on Tail
–T = 150µ" (3,81µm) Tin

BODY HEIGHT: –"XXX" = Body Height (Specify board space "B" in inches from lead style charts.)





LEAD STYLE	POST HEIGHT (A)	BODY HEIGHT (B)
–53	(3,05) .120	(13,46) .530 to (20,19) .795
–54	(5,84) .230	(13,46) .530 to (17,40) .685



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Due to technical progress, all designs, specifications and components are subject to change without notice.

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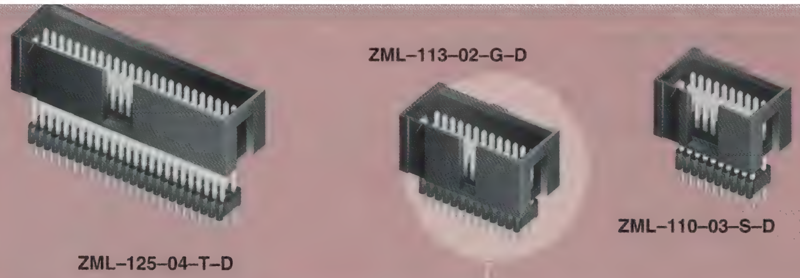
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

SMT Page 82

(1,27mm) .050" STACKER ZML SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Note: This Series is non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!
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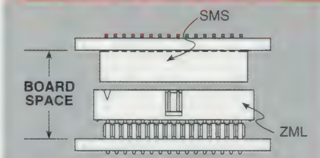
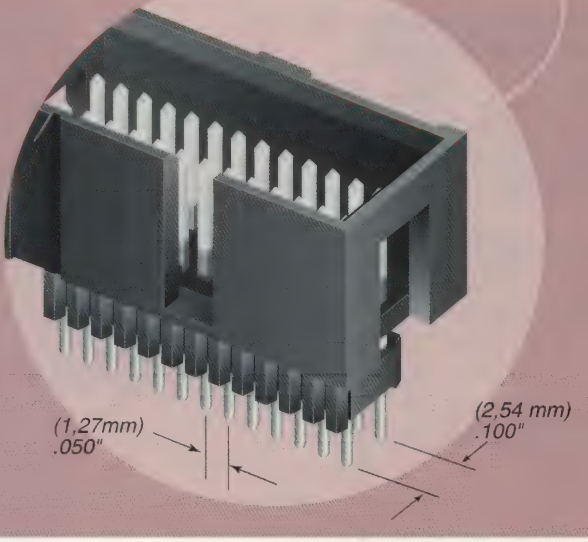
Mates with:
SMS, RSM

APPLICATIONS



APPLICATIONS	BOARD SPACE
ZML Style -01 mated with SMS	(13,72) .540
ZML Style -02 mated with SMS	(15,11) .595
ZML Style -03 mated with SMS	(17,53) .690
ZML Style -04 mated with SMS	(20,57) .810



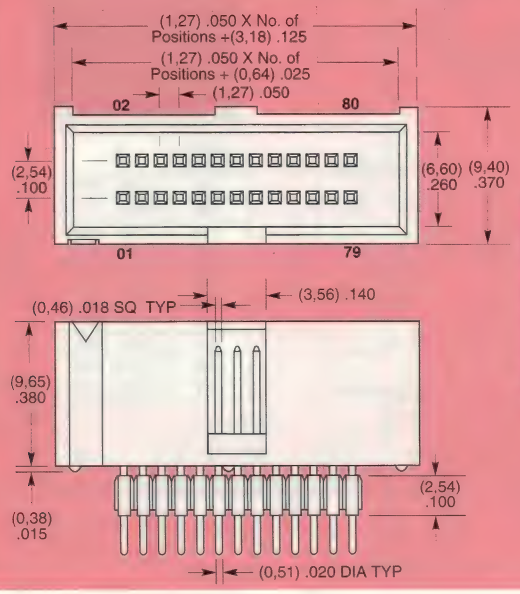
ZML – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D

.050" X .100"

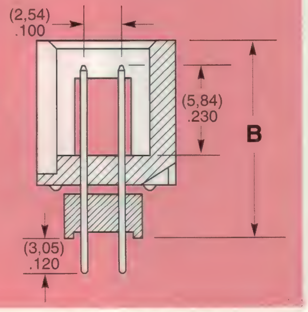
NO. PINS PER ROW:
–05, –08, –10, –13, –17, –20, –25, –30, –32, –36, –40
(Call Samtec for other sizes)

LEAD STYLE:
Specify LEAD STYLE from chart

PLATING OPTION:
–G
= 10µ" (0,25µm) Gold post
Gold flash on tail
–S
= 30µ" (0,76µm) Gold on posts
150µ" (3,81µm) Tin on Tail
–T
= 150µ" (3,81µm) Tin



LEAD STYLE	BODY HEIGHT (B)
–01	(12,83) .505
–02	(14,22) .560
–03	(16,64) .655
–04	(19,69) .775



F-198-2

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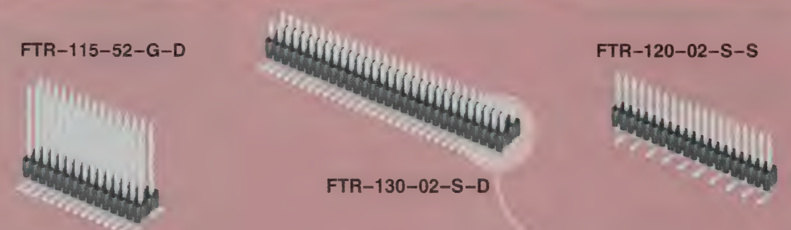
POPULAR CONNECTORS Ship Next DAY



Surface SMT Mount (1,27mm) .050" HEADER FTR SERIES

SPECIFICATIONS

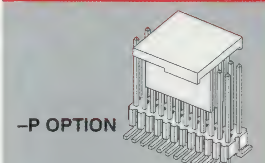
Mates with: RSM, SMS, SLM

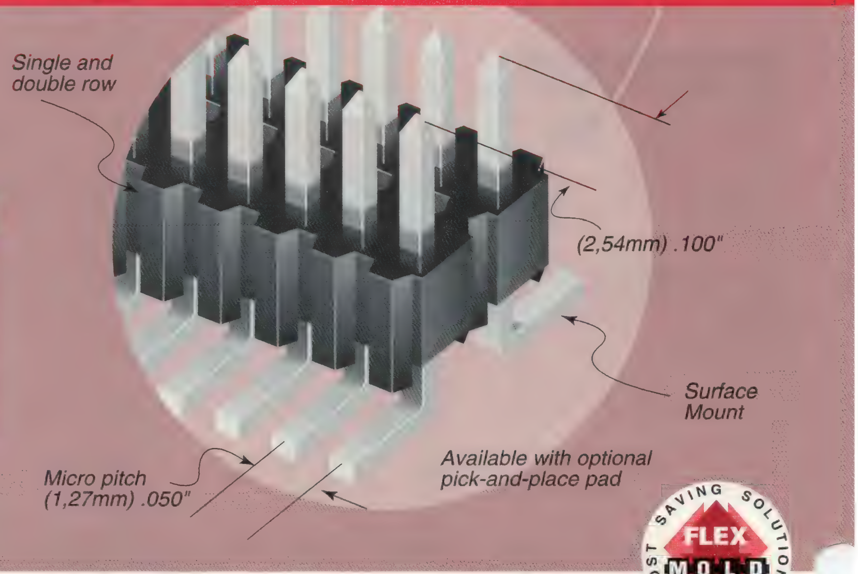
Materials:

Insulator Material:
Black Liquid Crystal Polymer or Nylon 4/6
Terminal Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Important Note: Style -02 with -S plating should not be mated with SLM

OPTIONS





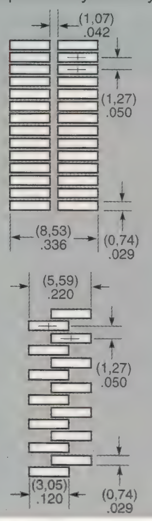
COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

.050" X .100"

Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
02-20 = (0,10mm) .004" max
21-40 = (0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



FTR – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

02 thru 40

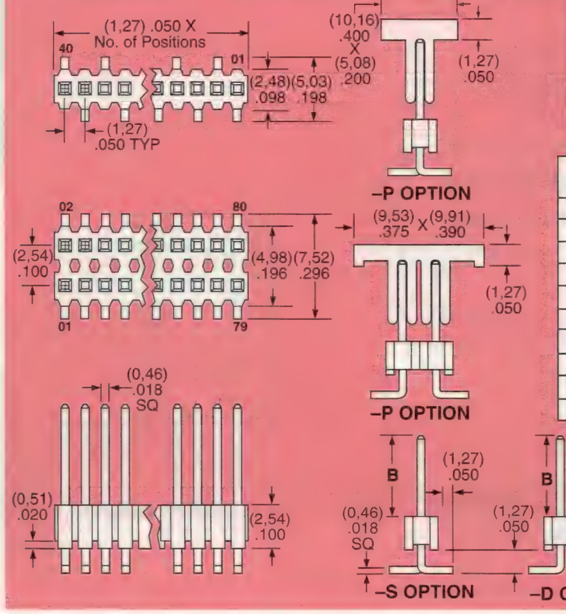
LEAD STYLE: Specify LEAD STYLE from chart

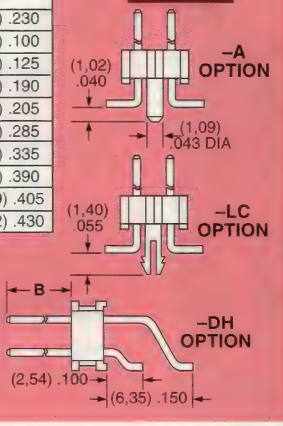
PLATING OPTION:
- **–G** =10µ" (0,25µm) Gold post Gold flash tail
- **–S** =30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin tail
- **–T** =150µ" (3,81µm) Tin

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row
- **–DH** = Double Horizontal (Style –01, –02 & –03 only)

OPTION:
- **–"XXX"** = Polarized
- **–A** = Alignment Pin (5 positions minimum –D only) (Metal or plastic at Samtec discretion)
- **–LC** = Locking Clip (6 positions minimum –D only)
- **–P** = Pick & Place Pad (5 positions minimum)
- **–K** = (3,00mm) .118" DIA Polyimide film Pick & Place Pad (5 positions minimum) (–DH only)

LEAD STYLE	B
–01	(5,84) .230
–02	(2,54) .100
–03	(3,18) .125
–51	(4,83) .190
–52	(5,21) .205
–53	(7,24) .285
–54	(8,51) .335
–55	(9,91) .390
–56	(10,29) .405
–57	(10,92) .430





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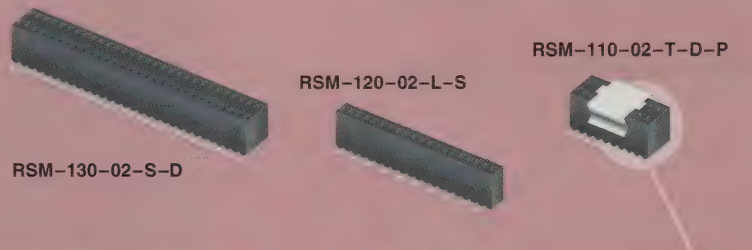


Surface **SMT** Mount

(1,27mm) .050" SOCKET RSM SERIES

SPECIFICATIONS

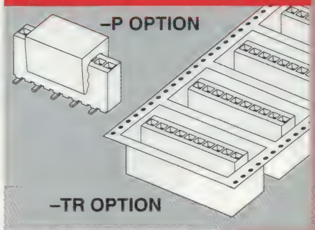
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Current Rating:
1A
Operating Temp Range:
-65°C to +125°C
Plating:
Au, or Sn over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Lead Size Accepted:
(0,46mm) .018" SQ
Insertion Depth:
Top Entry = (2,64mm) .104" to (5,84mm) .230" with (0,38mm) .015" wipe, or pass-through.
Bottom Entry = (5,49mm) .216" minimum (Add board thickness for correct post OAL)
Insertion Force:
3.5oz (0,97N) avg
Withdrawal Force:
1.5oz (0,42N) avg

Note: Some sizes, styles and options are non-standard, non-returnable.

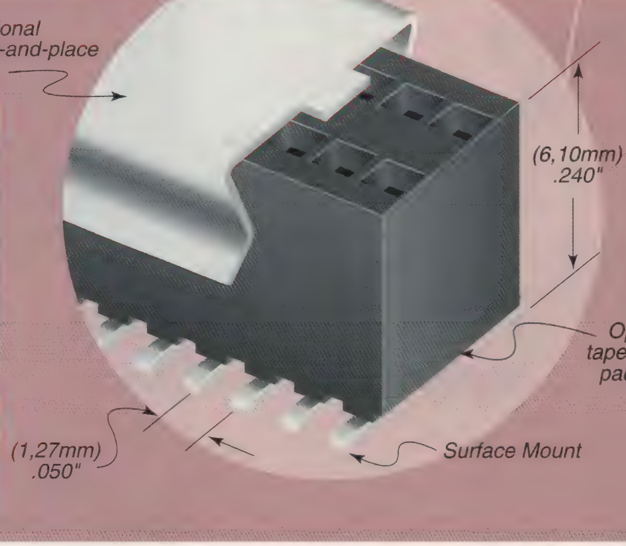
Mates with:
FTR, HTMS, HDWM, DWM, TML, ZML, TMS

OPTIONS



APPLICATION SPECIFIC OPTION

Locking clips available.
Call Samtec.

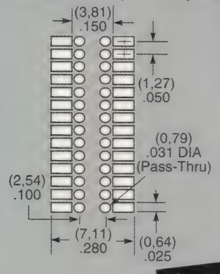


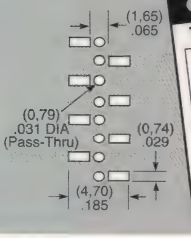
RSM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36				**–S** = 30µ" (0,76µm) Gold on contact 150µ" (3,81µm) Tin on tail **–L** = 10µ" (0,25µm) Gold on contact 150µ" (3,81µm) Tin on tail **–T** = 150µ"(3,81µm) Tin		**–S** = Single Row **–D** = Double Row		**–P** = Pick & Place Pad (5 positions minimum) **–K** = (6,25mm) .246" DIA Polyimide film Pick & Place Pad (5 positions minimum for –D) (7 positions minimum for –S) **–TR** = Tape & Reel

.050" X .100"

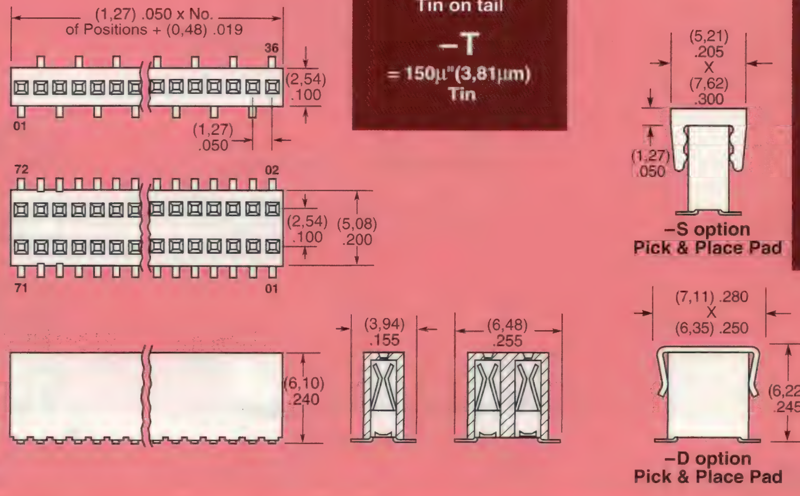
Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary





TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.



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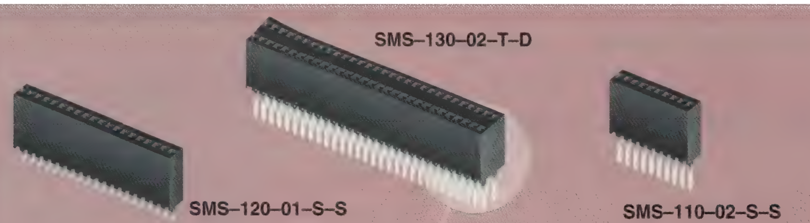


(1,27mm) .050" SOCKET SMS SERIES

Through T/H Hole

SPECIFICATIONS

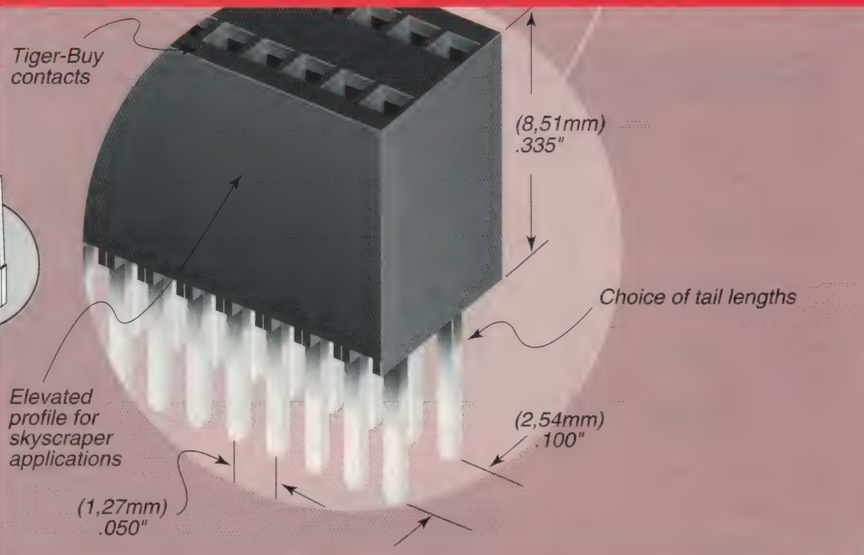
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Contact Retention in Body:
3 lbs (13,35N)
Insertion Depth:
(3,43mm) .135" to (6,35mm) .250" with (0,38mm) .015" wipe
Insertion Force:
8 oz (2,22N) avg
Withdrawal Force:
6 oz (1,67N) avg

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR, TML, ZML

TIGER BUY CONTACT

SMT COMPATIBLE IR THROUGH-HOLE



.050" X .100"

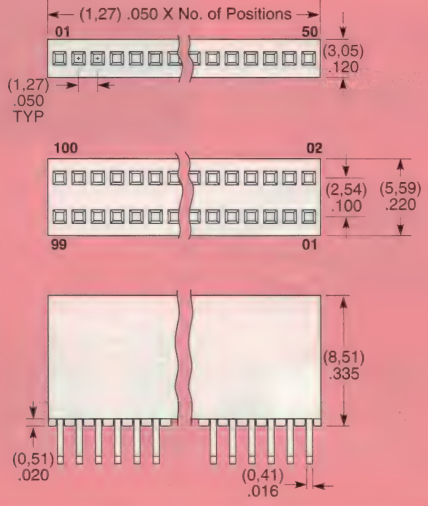
SMS – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION

01 thru 50

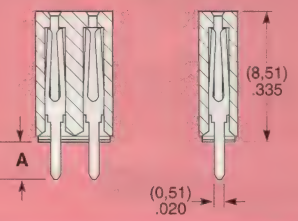
LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
–G = 10µ" (0,25µm) Gold contact
–S = 30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin
–T = 150µ" (3,81µm) Tin

ROW OPTION:
–S = Single Row
–D = Double Row



LEAD STYLE	A
–01	(2,54) .100
–02	(4,83) .190



Note: Some lengths, styles and options are non-standard, non-returnable.

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Due to technical progress, all designs, specifications and components are subject to change without notice.

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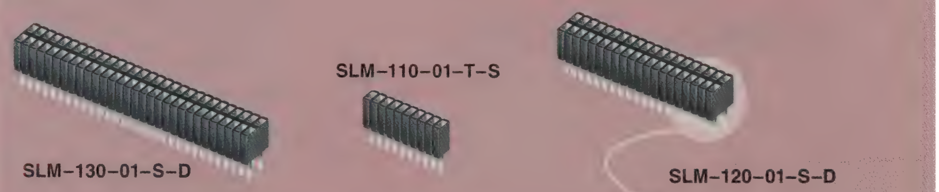
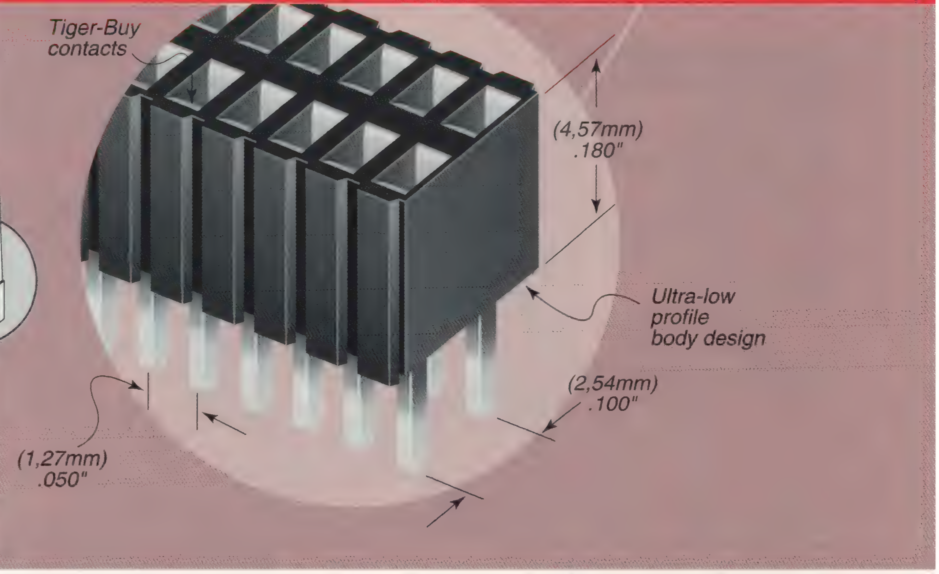


Through T/H Hole

(1,27mm) .050" SOCKET SLM SERIES



SPECIFICATIONS

Materials:

Insulator Material:
Black Glass Filled Polyester
Contact Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over 50µ" (1,27µm) Ni or 100µ" (2,54µm) Cu
Contact Resistance:
10 mΩ max
Insertion Depth:
(2,03mm) to (3,05mm) .080" to .120"
Insertion Force:
8oz (2,22N) avg, except -T is 14oz (3,89N)
Withdrawal Force:
6oz (1,67N) avg, except -T is 10oz (2,78N)

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR

TIGER BUY CONTACT

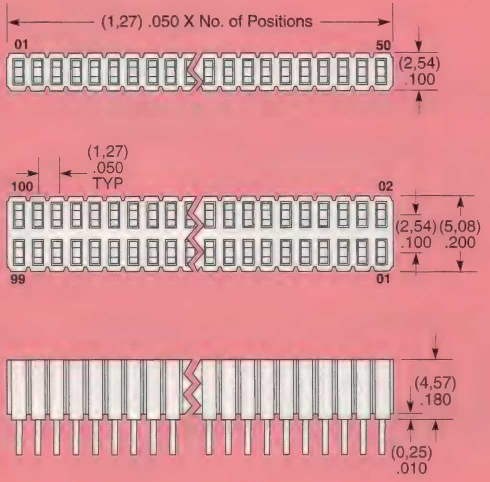
SLM – 1 NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

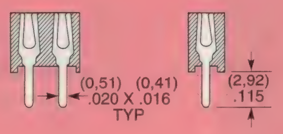
01 thru 50

PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold Contact 150µ" (3,81µm) Tin tail
- **–G** = 20µ" (0,51µm) Gold contact Gold flash on balance
- **–T** = 150µ" (3,81µm) Tin

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row

.050" X .100"





Note: Some lengths, styles and options are non-standard, non-returnable.

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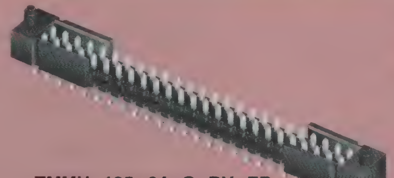
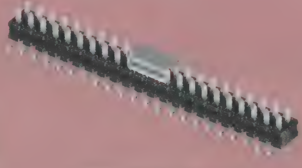

TMMH–125–04–G–DV–EP


TMMH–122–04–T–DV–LC–M

Surface SMT Mount

T/H Page 90

2mm FLEX SHROUD HEADER

SPECIFICATIONS

Materials:

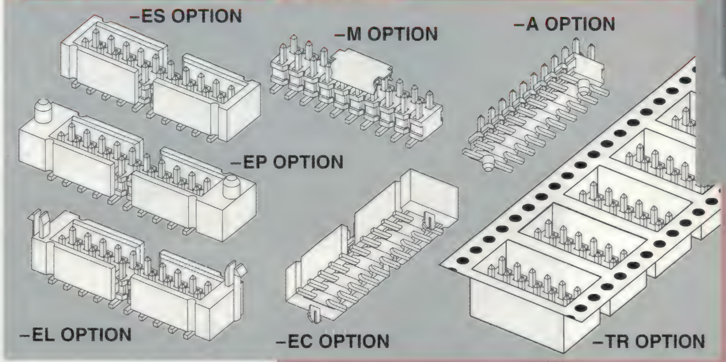
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

CURRENT RATING		
AMBIENT TEMP	Mated with	
	SQT	CLT
20°C	5.5A	4.8A
40°C	5A	4.4A
60°C	4A	3.6A
80°C	3A	3A

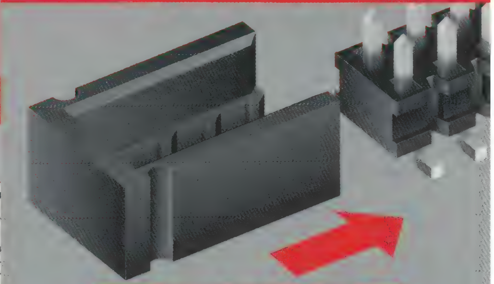
Note:
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

OPTIONS

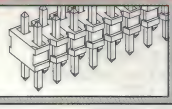


FLEX SHROUD



ALSO AVAILABLE

Through-Hole
See page 90

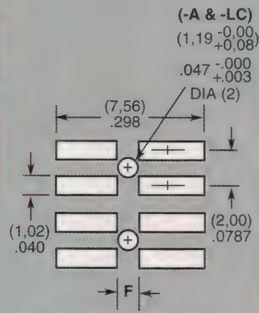


2mm Shunt
Specify **2SN–BK–G** for 2mm shunt with Gold plating.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

(2,00mm) .0787"



OPTION	F
NONE	(0,97) .038
–A	(1,14) .045
–LC	(1,14) .045

TMMH – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION –

03 thru 50

LEAD STYLE: **Specify LEAD STYLE from chart**

PLATING OPTION:

–G = 20µ" (0,51µm) Gold on post, Gold flash on tail

–T = 150µ" (3,81µm) Tin

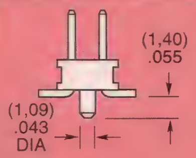
–S = 30µ" (0,76µm) Gold on post, 150µ" (3,81µm) Tin on tail

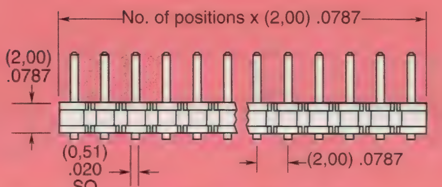
–L = 10µ" (0,25µm) Gold on post, 150µ" (3,81µm) Tin on tail

–F = Gold flash on post, 150µ" (3,81µm) Tin on tail

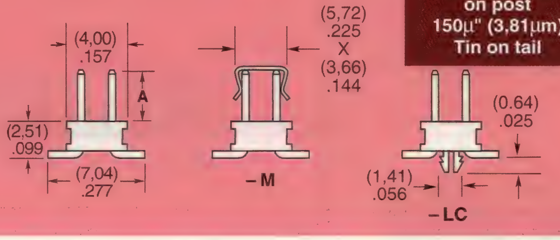
LEAD STYLE	A	MATES WITH
–01	(3,20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1,91) .075	
–05	(1,65) .065	CLT

OPTION	Z
–ES	(2,92) .115
–EC	(4,70) .185
–EP & –EPC	(6,10) .240
–EL & –EBC	(4,45) .175





(Shrouded options removed for clarity)



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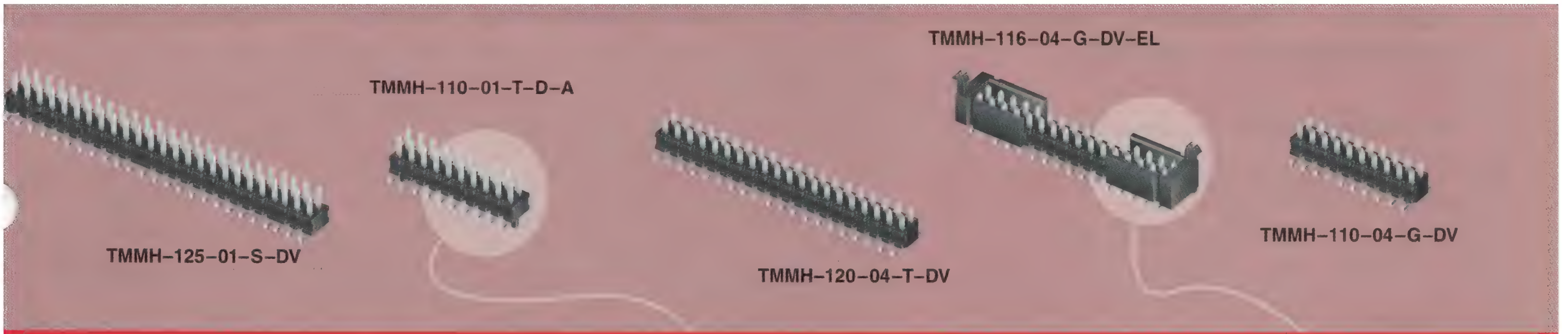
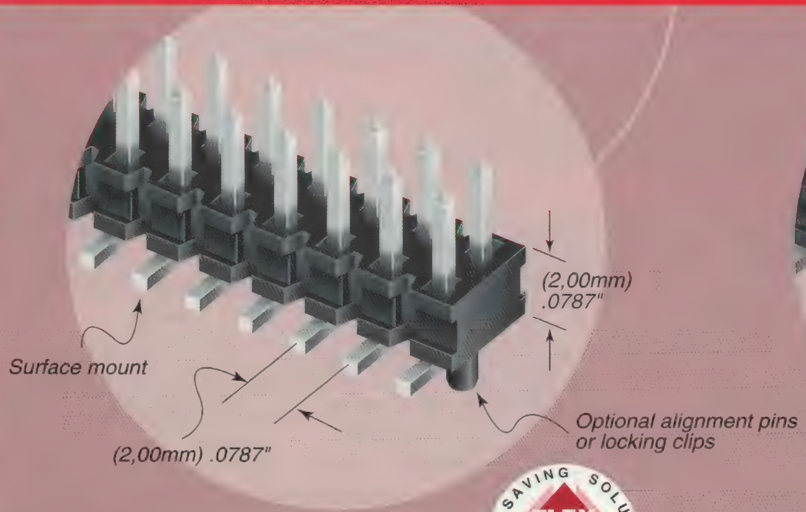
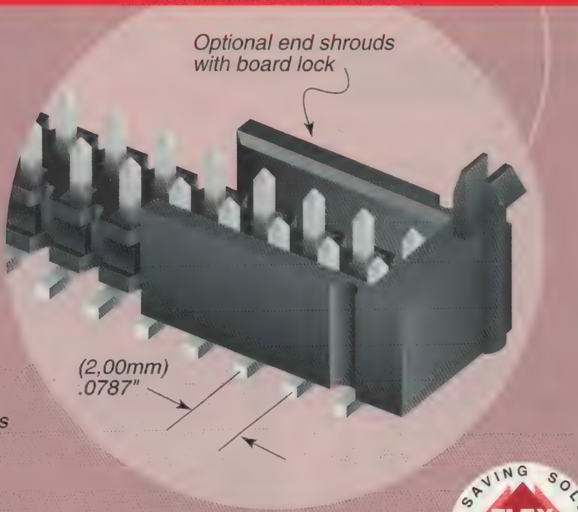


TMMH SERIES



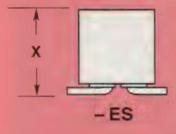


COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

DV

LEAD STYLE	X	Y
–01	(5,84) .230	(4,45) .175
–04 & –05	(4,50) .177	(3,02) .119



FLEX SHROUD OPTIONS

All Flex Shroud options require 9 pins/row minimum

–ES
= End Shroud
(For board-to-board interfaces. Will not mate with TCSD)

–EC
= End Shroud with Locking Clip

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock
(Boards are positively locked and cannot be unmated)

–EBC
= End Shroud with Board Lock and Locking Clip
(Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip

OTHER OPTIONS

–"XXX"
= Polarized Position
Specify position of omitted pin

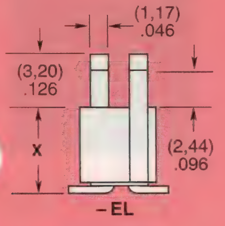
–M
= Pick & Place Pad

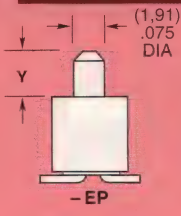
–LC
= Locking Clip

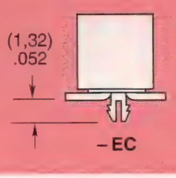
–A
= Alignment Pin
(3 positions minimum)

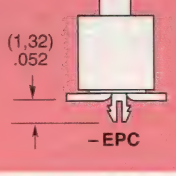
–TR
= Tape & Reel Packaging
(Options not available except –M & –ES)

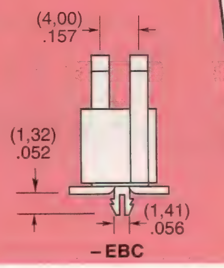
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.











F-198-2

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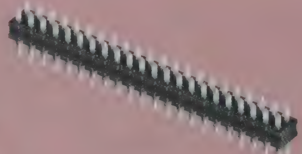
TMMH–125–04–G–D–EP



TMMH–122–04–T–D

Through T/H Hole

SMT Page 88

2mm FLEX SHROUD HEADER

SPECIFICATIONS

Materials:

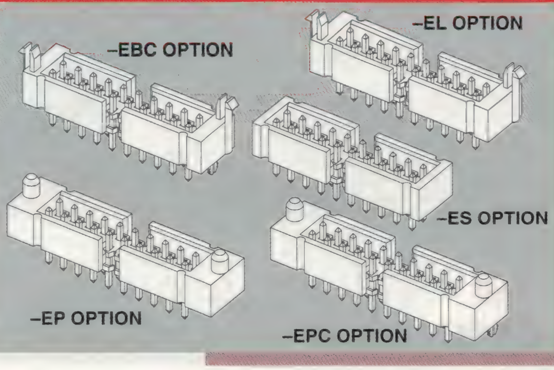
Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

CURRENT RATING		
AMBIENT TEMP	Mated with	
	SQT	CLT
20°C	5.5A	4.8A
40°C	5A	4.4A
60°C	4A	3.6A
80°C	3A	3A

Note:
Some lengths, styles and options are non-standard, non-returnable.

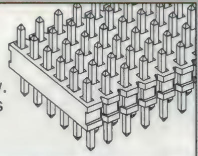
Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

OPTIONS



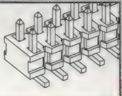
ALSO AVAILABLE

Ultra High Density
For 4, 5 and 6 row. See TMMH Series page 94



2mm Shunt
Specify **2SN–BK–G** for 2mm shunt with Gold plating.

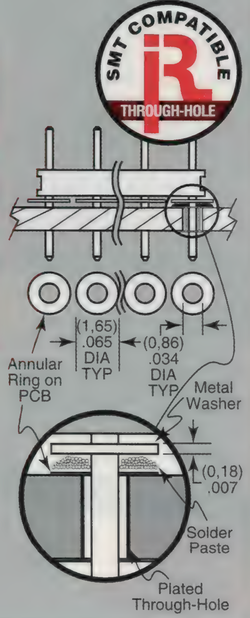
Surface Mount
See page 88



Processing:

Max Processing Temp:
230°C for 60 seconds

(2,00mm) .0787"



TMMH	–	1	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–

NO. PINS PER ROW: 03 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

LEAD STYLE	A	B	C
–01	(7,67) .302	(3,20) .126	(2,46) .097
–04	(6,45) .255	(1,91) .075	(2,57) .101
–05	(5,94) .234	(1,65) .065	(2,29) .090

OPTION	Z
–ES	(2,92) .115
–EC	(4,70) .185
–EP & –EPC	(6,10) .240
–EL & –EBC	(4,45) .175

PLATING OPTION:

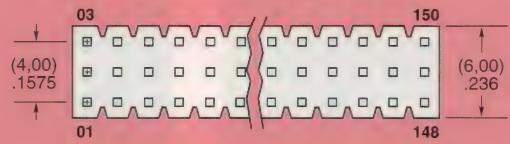
–G = 20µ" (0,51µm) Gold on contact area Gold flash on tail

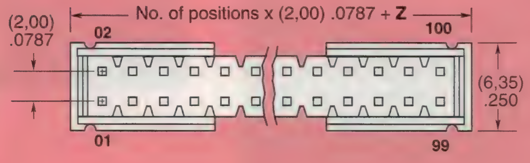
–T = 150µ" (3,81µm) Tin

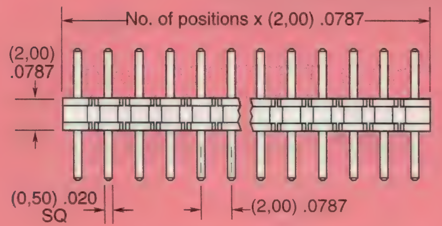
–S = 30µ" (0,76µm) Gold on contact area 150µ" (3,81µm) Tin on tail

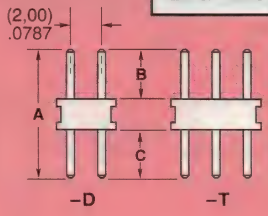
–L = 10µ" (0,25µm) Gold on contact area 150µ" (3,81µm) Tin on tail

–F = Gold flash on contact area 150µ" (3,81µm) Tin on tail









(Shrouded options removed for clarity)

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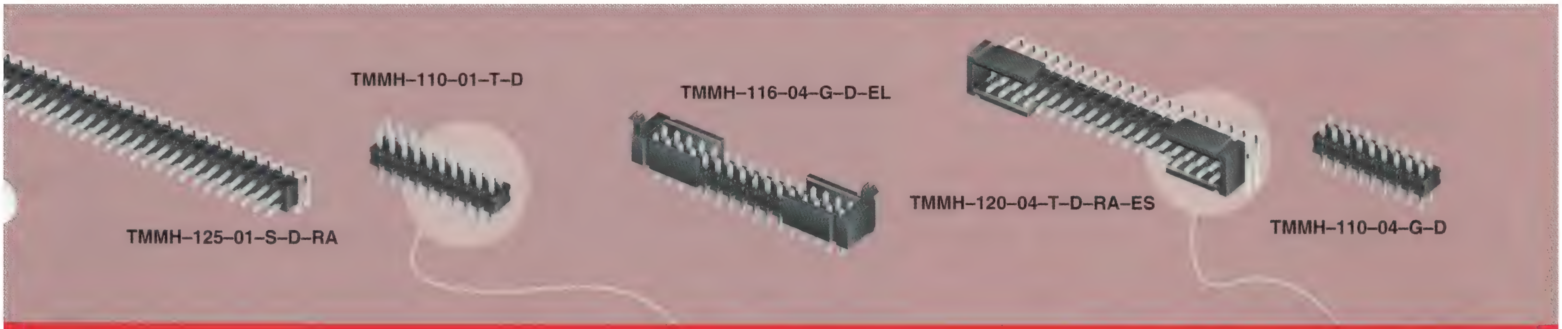


TMMH SERIES

ROW OPTION	TAIL OPTION	FLEX SHROUD OPTIONS	OTHER OPTIONS

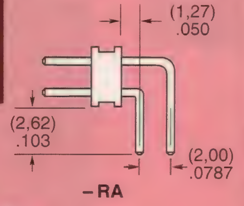
ROW OPTION

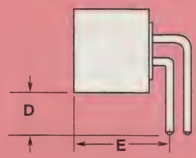
–D = Double Row

–T = Triple Row (Flex Shroud option not available)

TAIL OPTION

–RA = Right Angle (Double Row only)





– RA – ES
(– RA also available with other flex shroud options)

LEAD STYLE	D	E
–01	(2,34) .092	(6,60) .260
–04	(2,62) .103	(5,26) .207
–05	(3,12) .123	(5,26) .207

FLEX SHROUD OPTIONS

All Flex Shroud options require 9 pins/row minimum

–ES = End Shroud (For board-to-board interfaces. Will not mate with TCSD)

–EC = End Shroud with Locking Clip

–EP = End Shroud with Guide Post

–EL = End Shroud with Board Lock (Boards are positively locked and cannot be unmated)

–EBC = End Shroud with Board Lock and Locking Clip (Boards are positively locked and cannot be unmated)

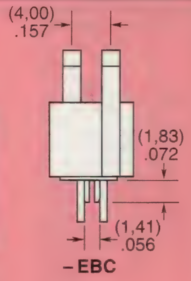
–EPC = End Shroud with Guide Post and Locking Clip

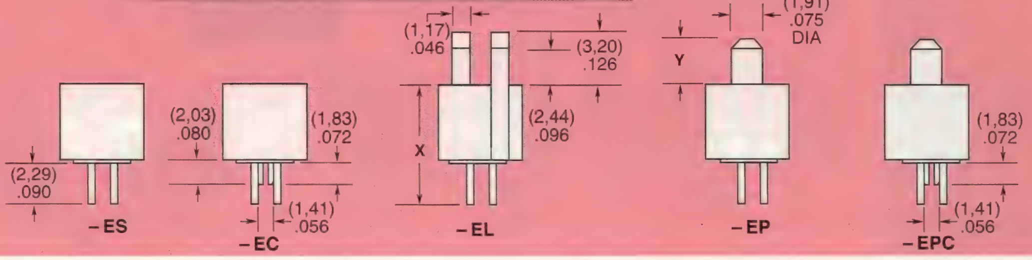
OTHER OPTIONS

–"XXX" = Polarized Position
Specify position of omitted pin

–MW = Metal Washers on Solder Tails
(30 pins per row maximum)
(Right Angle not available)
(Will increase profile by (0,25mm) .010")

LEAD STYLE	X	Y
–01	(5,84) .230	(4,45) .175
–04 & –05	(4,50) .177	(3,02 .119





(2,00mm) .0787"

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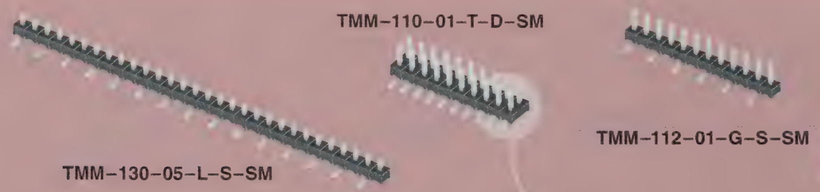
POPULAR CONNECTORS Ship Next DAY



Surface **SMT** Mount

T/H Page 93

2mm HEADER TMM SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

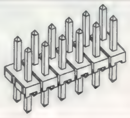
CURRENT RATING		
AMBIENT TEMP	Mated with	
	SQT	CLT
20°C	5.5A	4.8A
40°C	5A	4.4A
60°C	4A	3.6A
80°C	3A	3A

Note:
Some lengths, styles and options are non-standard, non-returnable.

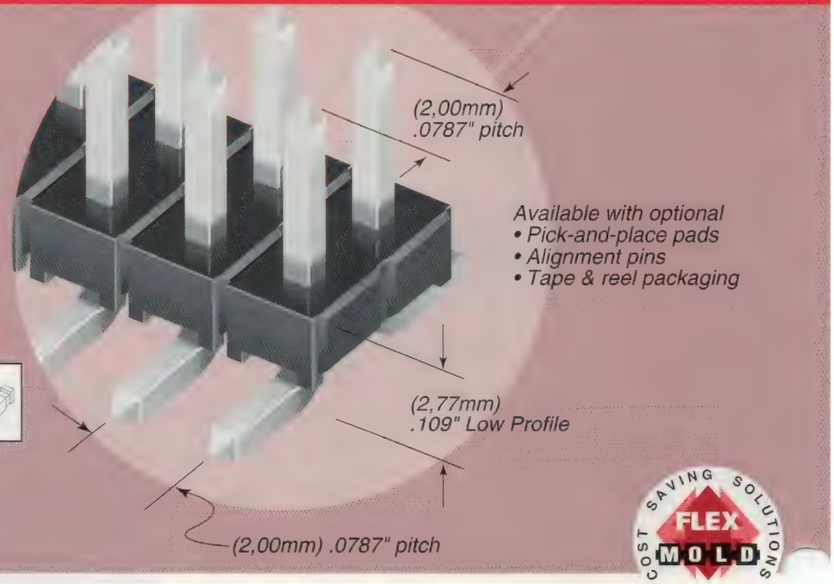
Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

ALSO AVAILABLE

Through Hole
See page 93



2mm Shunt
Specify **2SN–BK–G** for 2mm shunt with Gold plating.



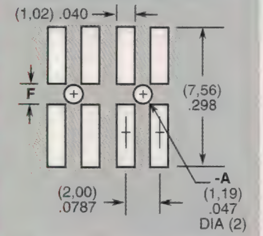
Available with optional
- *Pick-and-place pads*
- *Alignment pins*
- *Tape & reel packaging*

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

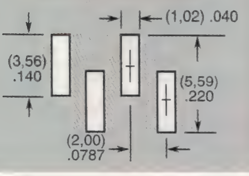
Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

(2,00mm) .0787"



OPTION	F
NONE	(0,97) .038
–A	(1,14) .045



TMM – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – SM – OTHER OPTION

02 thru 40

LEAD STYLE: Specify Lead Style from chart below.

PLATING OPTION:

–G = 20µ" (0,51µm) Gold on contact area Gold flash on tail

–T = 150µ" (3,81µm) Tin

–S = 30µ" (0,76µm) Gold on contact area 150µ" (3,81µm) Tin on tail

–L = 10µ" (0,25µm) Gold on contact area 150µ" (3,81µm) Tin on tail

ROW OPTION:

–S = Single Row

–D = Double Row

OTHER OPTION:

–"XX" = Polarized Position Specify position of omitted pin

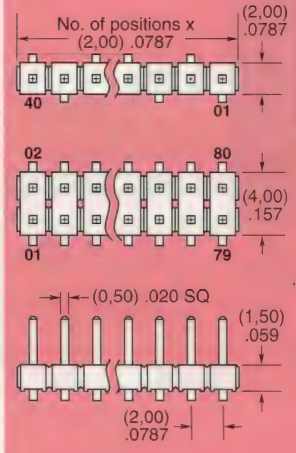
–A = Alignment Pin (Metal or plastic at Samtec discretion) (5 positions minimum) (–D only)

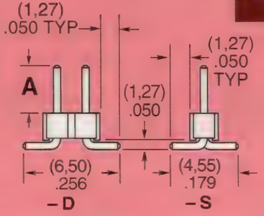
–P = Pick & Place Pad (4 positions minimum)

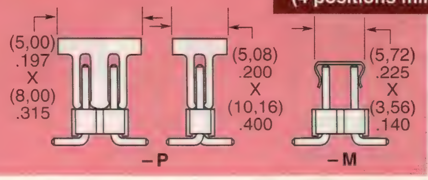
–M = Metal Pick & Place Pad (4 positions minimum) (–D only)

–TR = Tape & Reel Pkg. (–D only) (4 positions minimum)

LEAD STYLE	A	MATES WITH
–01	(3,20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1,91 .075	
–05	(1,65) .065	CLT







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Due to technical progress, all designs, specifications and components are subject to change without notice.

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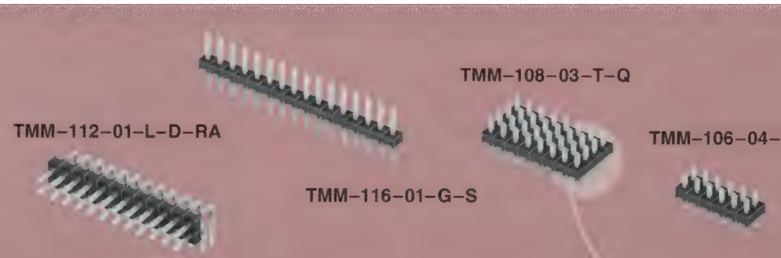
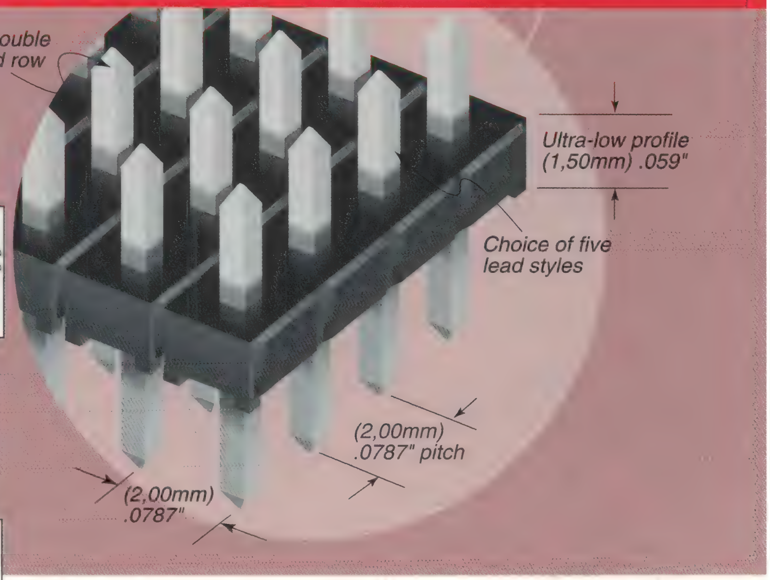


POPULAR CONNECTORS Ship Next DAY

Through T/H Hole

SMT Page 92

2mm LOW PROFILE TMM SERIES



SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

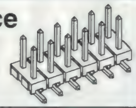
CURRENT RATING		
AMBIENT TEMP	Mated with SQT	Mated with CLT
20°C	5.5A	4.8A
40°C	5A	4.4A
60°C	4A	3.6A
80°C	3A	3A

Note:
Some lengths, styles and options are non-standard, non-returnable.

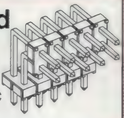
Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

ALSO AVAILABLE

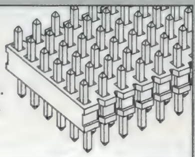
Surface Mount
See page 92



Elevated Right Angle
Call Samtec



Ultra High Density
For 4, 5 and 6 row. See TMMH Series page 94

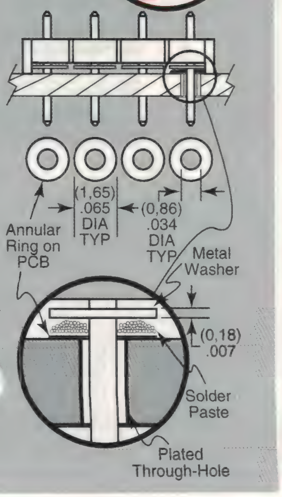


2mm Shunt
Specify **2SN–BK–G** for 2mm shunt with Gold plating.

Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE



TMM – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

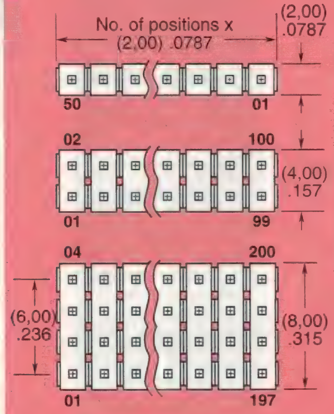
01 thru 50

LEAD STYLE: Specify Lead Style from chart below.

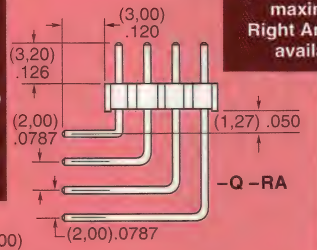
PLATING OPTION:
- **–G** = 20µ" (0,51µm) Gold post on contact area flash on tail
- **–T** = 150µ" (3,81µm) Tin
- **–S** = 30µ" (0,76µm) Gold on contact area 150µ" (3,81µm) Tin on tail
- **–L** = 10µ" (0,25µm) Gold on contact area 150µ" (3,81µm) Tin on tail

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row
- **–Q** = Four Row

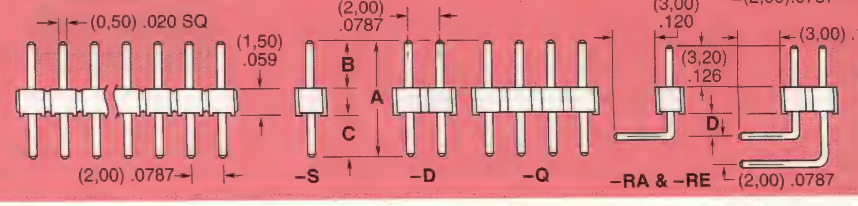
OTHER OPTION:
- **–"XXX"** = Polarized Position. Specify position of omitted pin
- **–RA & –RE** = Right Angle (Lead Style –01 only)
- **–MW** = Metal Washers on Solder Tails (30 pins per row maximum) Right Angle not available.



LEAD STYLE	A	B	C
–01	(8,20) .323	(3,20) .126	(3,50) .138
–02		(3,70) .146	(3,00) .118
–03		(4,00) .158	(2,70) .106
–04	(5,69) .224	(1,91) .075	(2,29) .090
–05	(5,18) .204	(1,65) .065	

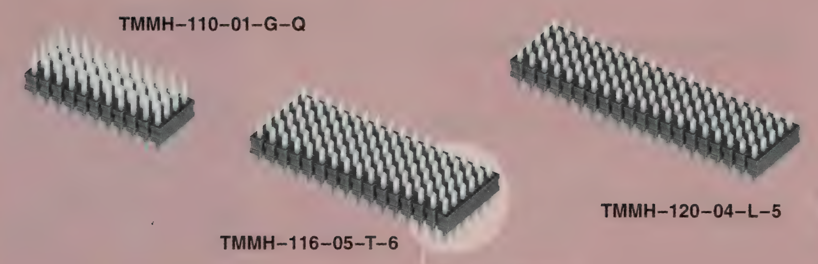


(2,00mm) .0787"



OPTION	D
–RA	(1,27) .050
–RE	(3,56) .140

POPULAR CONNECTORS Ship Next DAY



2mm HI-DENSITY HEADER TMMH SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

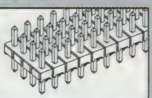
CURRENT RATING	
AMBIENT TEMPERATURE	Mated with SQT
20°C	5.5A
40°C	5A
60°C	4A
80°C	3A

Note:
Some lengths, styles and options are non-standard, non-returnable.

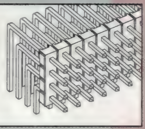
Mates with:
SQT, SQW, ESQT

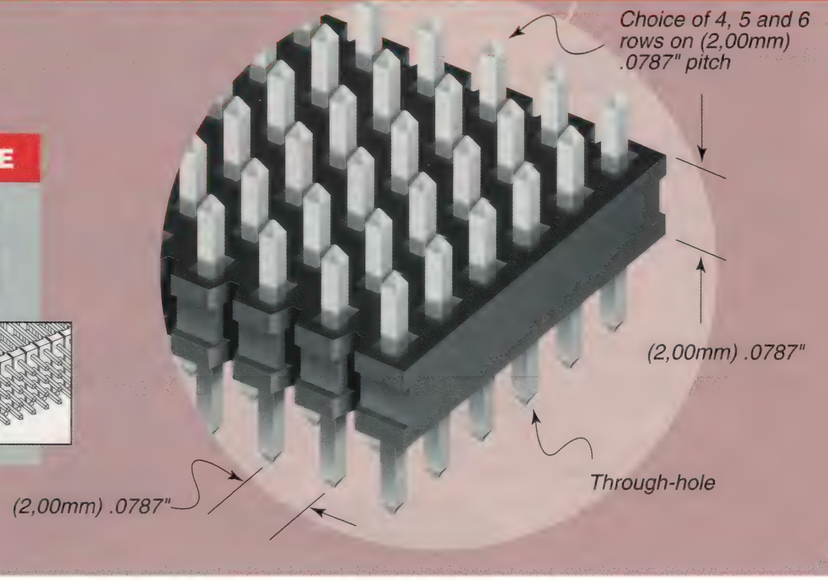
ALSO AVAILABLE

Low Profile Four Row
See TMM Series



Right Angle Four Row
See TMM Series

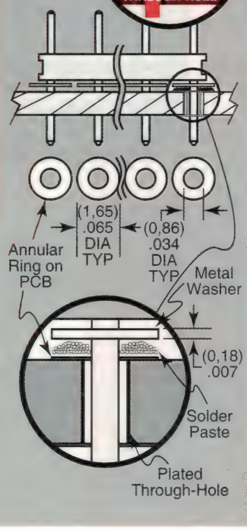




Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE



(2,00mm) .0787"

TMMH – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTIONS

05 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

LEAD STYLE	A	B	C
–01	(7,67) .302	(3,20) .126	(2,46) .097
–04	(6,45) .255	(1,91) .075	(2,57) .101
–05	(5,94) .234	(1,65) .065	(2,29) .090

PLATING OPTION:

–G = 20µ" (0,51µm) Gold on contact area Gold flash on tail

–T = 150µ" (3,81µm) Tin

–S = 30µ" (0,76µm) Gold on contact area 150µ" (3,81µm) Tin on tail

–L = 10µ" (0,25µm) Gold on contact area 150µ" (3,81µm) Tin on tail

–F = Gold flash on contact area 150µ" (3,81µm) Tin on tail

ROW OPTION:

–Q = Four Row

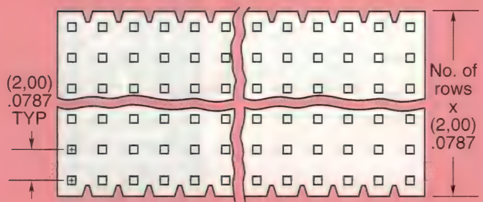
–5 = Five Row

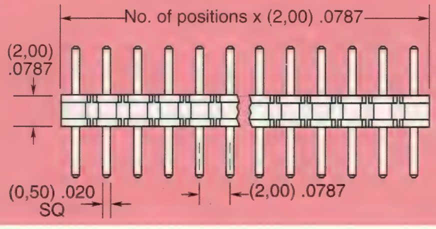
–6 = Six Row

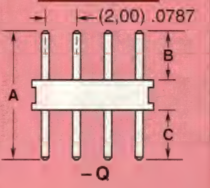
OTHER OPTIONS:

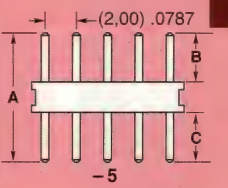
–"XXX" = Polarized Position Specify position of omitted pin

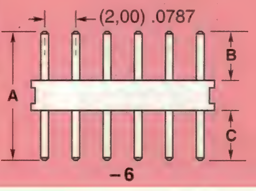
–MW = Metal Washers on Solder Tails (–Q only. 30 pins per row maximum) (Will increase profile by (0,25mm) .010")











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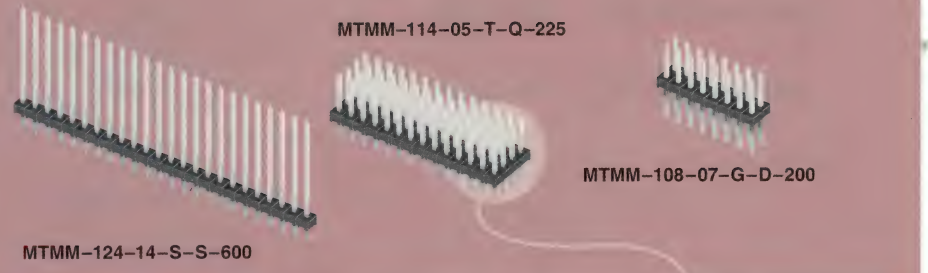
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

MODIFIED HEADER MTMM SERIES

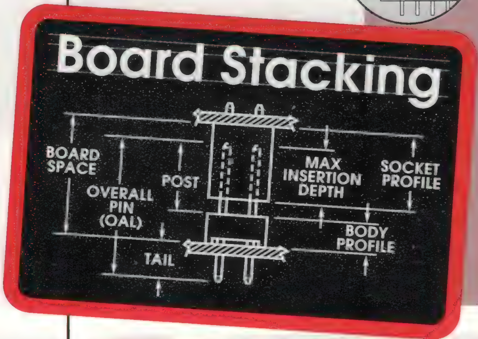
SPECIFICATIONS

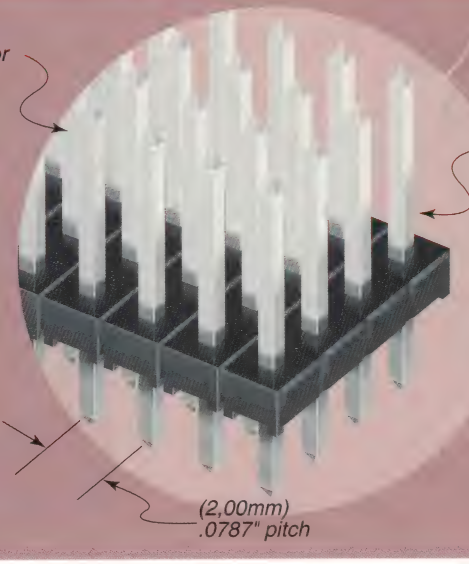
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

4 ROW





COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

Note: This Series is non-standard, non-returnable.

MTMM – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – POST HEIGHT – OPTION

01 thru 50

LEAD STYLE: Specify LEAD STYLE from chart.

PLATING OPTION:
- **–G** = 20µ" (0,51µm) Gold post Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin on tail (Styles –02 thru –08 not available)
- **–T** = 150µ" (3,81µm) Tin

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row
- **–Q** = Quad Row

POST HEIGHT:
- **–"XXX"** = Post Height in inches (0,13mm) .005" increments

Example: –070 = (1,78mm) .070"

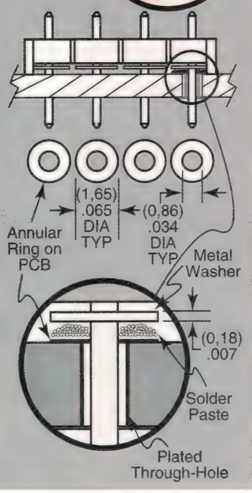
OPTION:
- **–"XX"** = Polarized Position Specify position of omitted pin
- **–MW** = Metal Washers on Solder Tails –D & –Q only (30 pins per row maximum) Requires (2,29mm) .090" to (12,19mm) .480" tails.

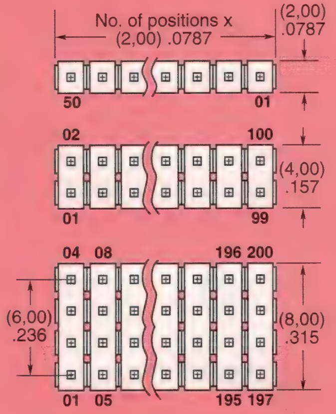
(2,00mm) .0787"

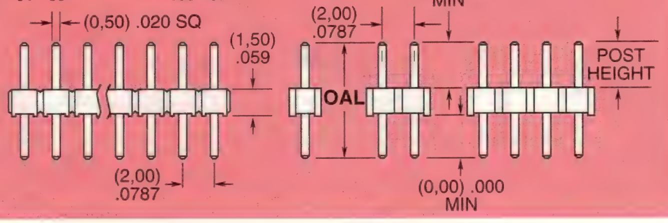
Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE







LEAD STYLE	OAL
–02	(6,48) .255
–03	(7,67) .302
–04	(8,20) .323
–05	(9,58) .377
–06	(10,08) .397
–07	(11,58) .456
–08	(12,09) .476
–09	(13,59) .535
–10	(14,10) .555
–11	(15,09) .594
–12	(15,60) .614
–13	(17,09) .673
–14	(19,08) .751
–15	(21,08) .830

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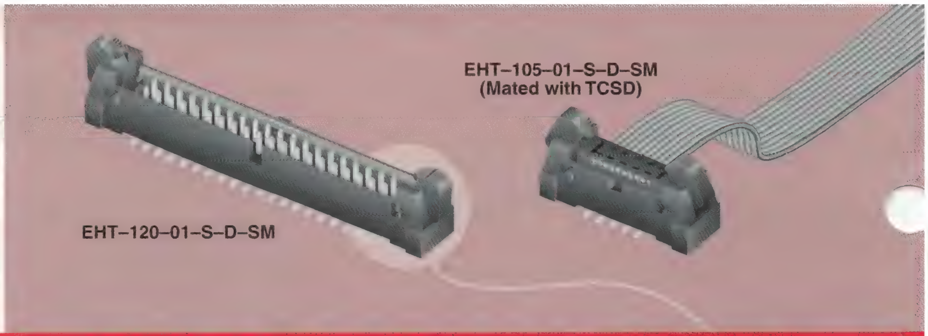
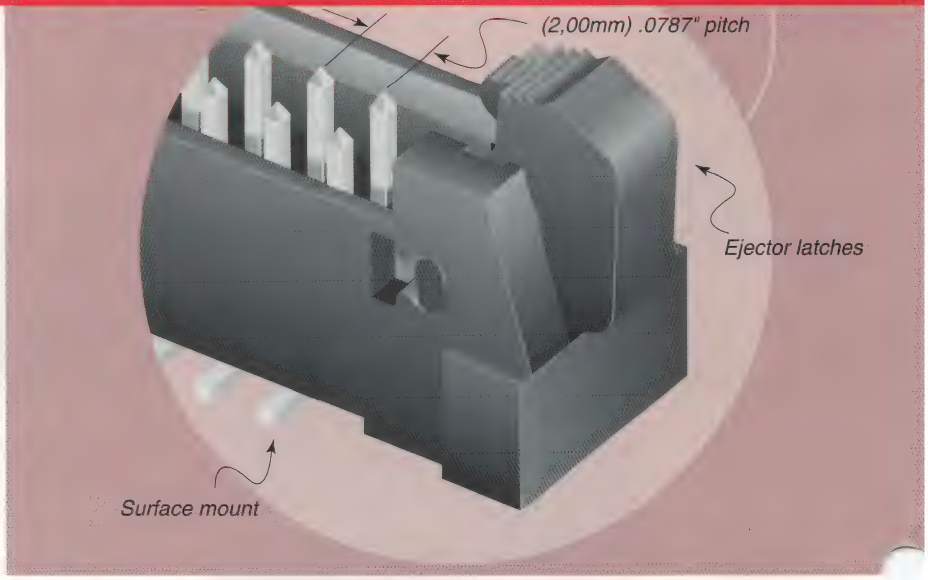
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 97

2mm EJECTOR HEADER EHT SERIES



SPECIFICATIONS

Mates with: TCSD

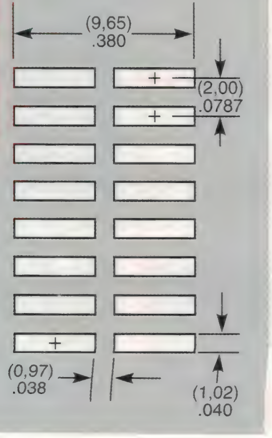
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Note: Some lengths, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT
Suggested PCB Layouts:
Your specific layout may vary



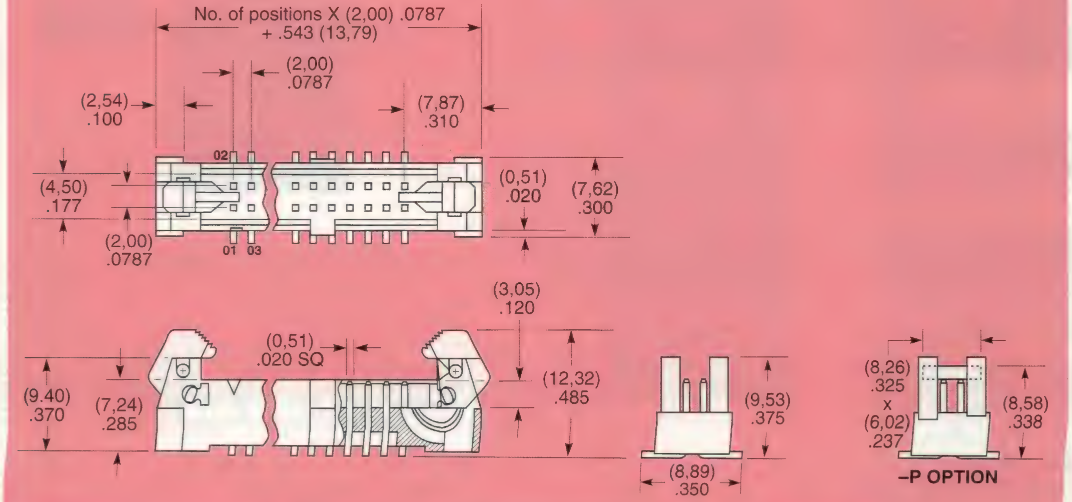
(2,00mm) .0787"

EHT – 1 NO. PINS PER ROW – 01 – PLATING OPTION – D – SM – OTHER OPTION

NO. PINS PER ROW: 05, 08, 10, 12, 13, 15, 17, 20, 22, 25

PLATING OPTION:
–S
=30µ" (0,76µm) Gold post
150µ" (3,81µm) Tin on tail

OTHER OPTION:
–"XX"
= Polarized Position
–P
= Pick & Place Pad



(Latch removed for clarity)

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Due to technical progress, all designs, specifications and components ...

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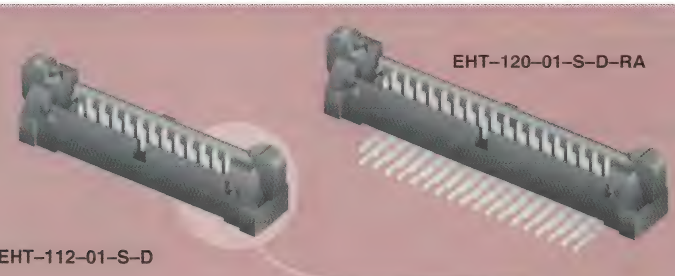
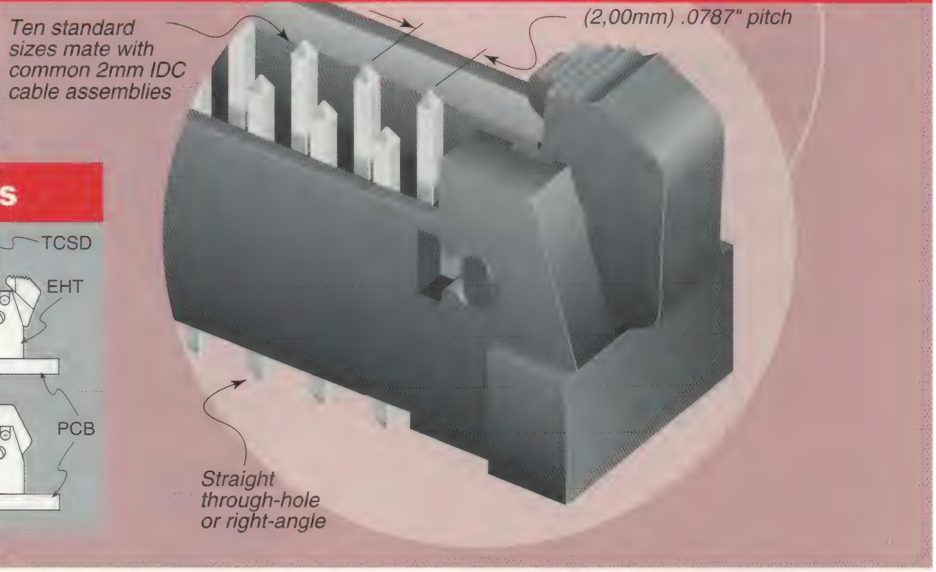
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

SMT Page 96

2mm EJECTOR HEADER EHT SERIES



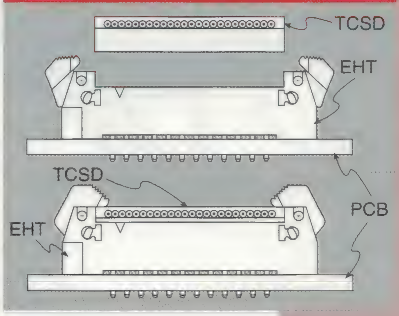
SPECIFICATIONS

Materials:

Insulator Material:
Black Glass Filled Polyester
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni

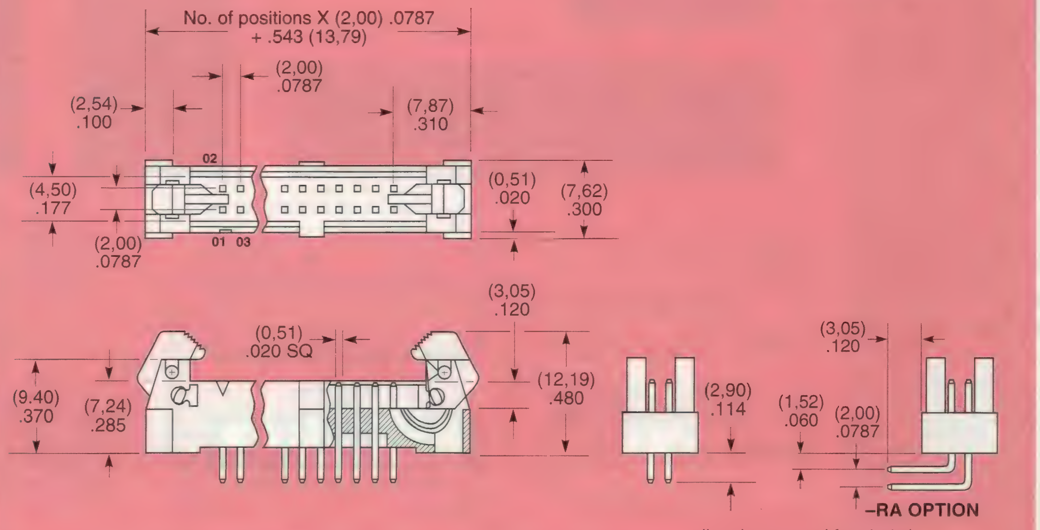
Mates with:
TCSD

APPLICATIONS



EHT – 1 NO. PINS PER ROW – 01 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

NO. PINS PER ROW	PLATING OPTION	TAIL OPTION	OTHER OPTION
05, 08, 10, 12, 13, 15, 17, 20, 22, 25	–S =30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin on tail	Leave blank for straight pin –RA =Right Angle	–"XX" = Polarized Position



(Latch removed for clarity)

(2,00mm) .0787"

Note: Some lengths, styles and options are non-standard, non-returnable.

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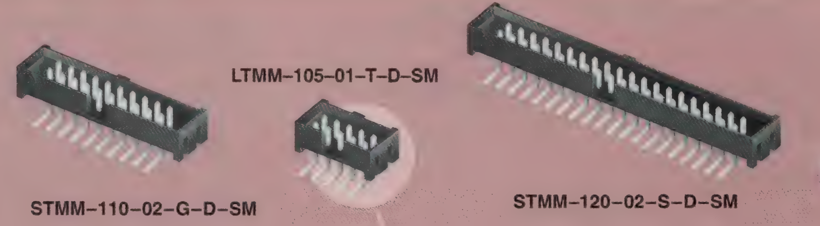
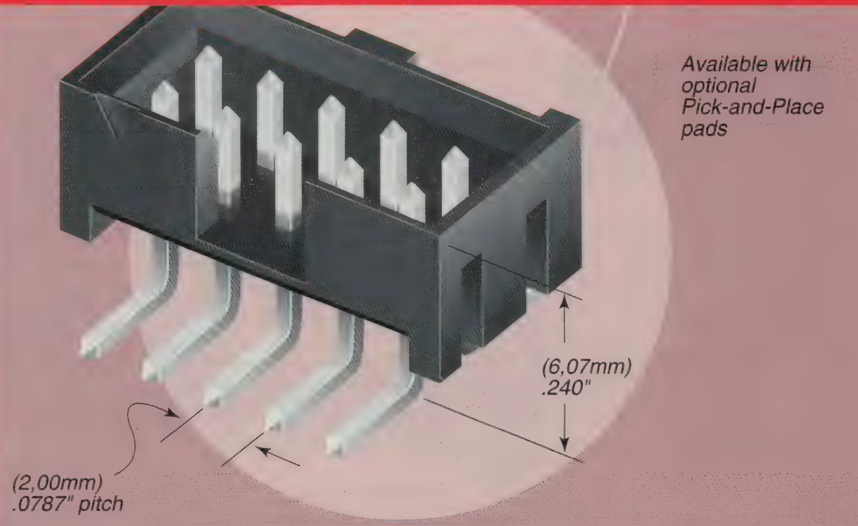
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 99

2mm SHROUDED STMM, LTMM SERIES



SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

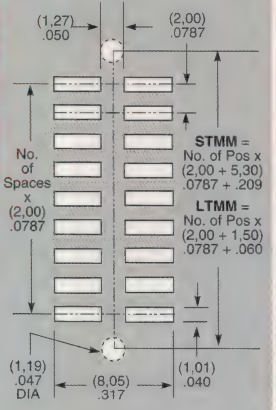
Mates with: SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary

(2,00mm) .0787"



TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – SM – OTHER OPTION

TYPE STRIP
- **STMM** = Cable Strip (Requires style -02 to mate with TCSD)
- **LTMM** = Connector Strip

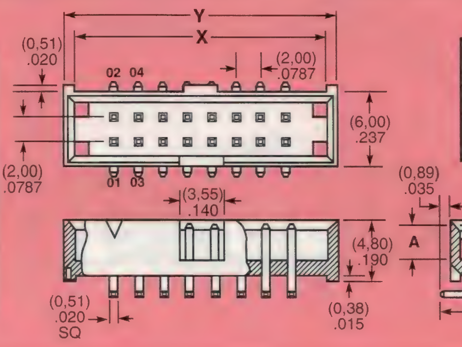
NO. PINS PER ROW
05, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Call Samtec for other sizes)

LEAD STYLE
Specify LEAD STYLE from chart below.

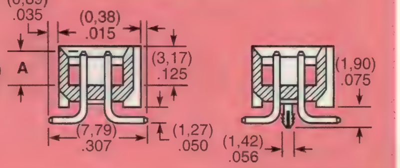
PLATING OPTION
- **–G** = 20µ" (0,51µm) Gold post; Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold post; 150µ" (3,81µm) Tin on tail
- **–T** = 150µ" (3,81µm) Tin

OTHER OPTION
- **–"XX"** = Polarized Position. Specify position for omitted pin
- **–LC** = Locking Clip
- **–P** = Pick & Place Pad (8,26mm) .325" X (6.02mm) .237"
- **–TR** = Tape & Reel

TYPE STRIP	X	Y
LTMM	(2,00) .0787 x No. of Positions + (0,61) .024	(2,00) .0787 x No. of Positions + (2,39) .094
STMM	(2,00) .0787 x No. of Positions + (4,39) .173	(2,00) .0787 x No. of Positions + (6,17) .243



LEAD STYLE	A	MATES WITH
–01	(2,54) .100	MMS, TLE
–02	(3,05) .120	TCSD, SMM, SQT, SQW, ESQT



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[illegible]

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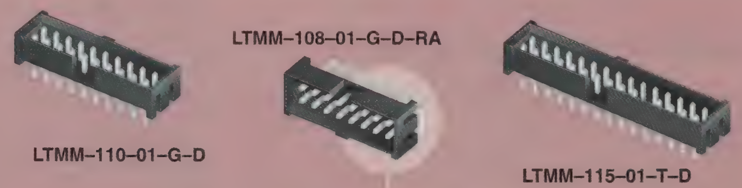


POPULAR CONNECTORS Ship in 3 DAYS

Through T/H Hole SMT Page 98

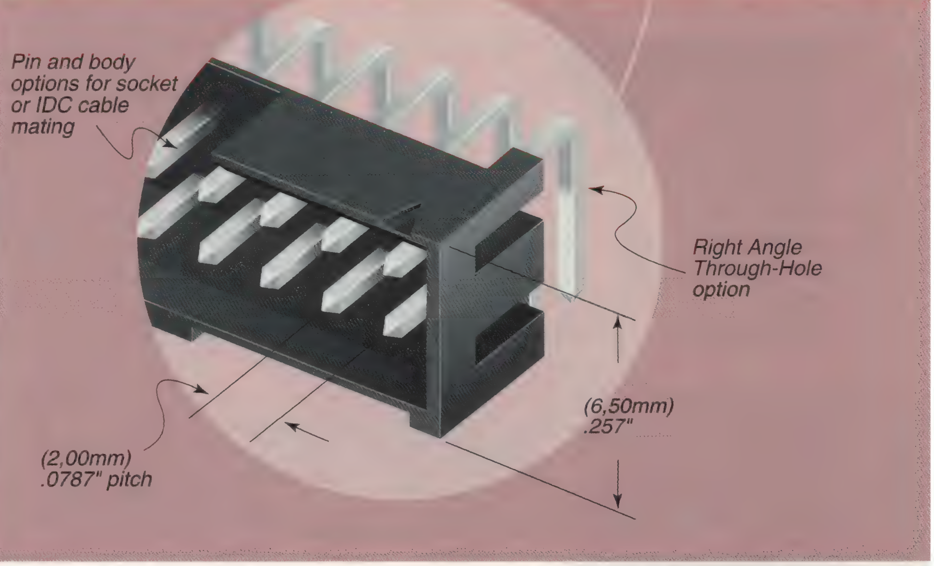
2mm SHROUDED STMM, LTMM SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

Mates with:
SQT, SQW, ESQT, TLE, SMM, MMS, TCSD



Note: Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE THROUGH-HOLE

SUDDEN SPECS! www.samtec.com

TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

TYPE STRIP:
- **STMM** = Cable Strip (Requires style -02 to mate with TCSD)
- **LTMM** = Connector Strip

NO. PINS PER ROW: 05, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Call Samtec for other sizes)

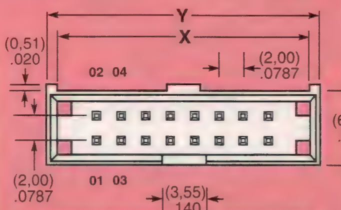
LEAD STYLE: Specify LEAD STYLE from chart below.

PLATING OPTION:
- **–G** = 20µ" (0,51µm) Gold post; Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold post; 150µ" (3,81µm) Tin on tail
- **–T** = 150µ" (3,81µm) Tin

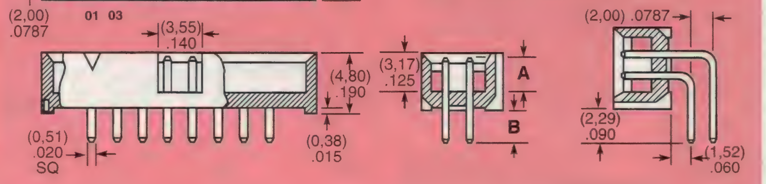
TAIL OPTION:
- **–RA** =Right Angle

OTHER OPTION:
- **–"XX"** = Polarized Position Specify position for omitted pin

TYPE STRIP	X	Y
LTMM	(2,00) .0787 x No. of Positions + (0,61) .024	(2,00) .0787 x No. of Positions + (2,39) .094
STMM	(2,00) .0787 x No. of Positions + (4,39) .173	(2,00) .0787 x No. of Positions + (6,17) .243



LEAD STYLE	A	B	MATES WITH
–01	(2,54) .100	(2,29) .090	MMS, TLE
–02	(3,05) .120	(2,97) .117	TCSD, SMM, SQT, SQW, ESQT



(2,00mm) .0787"

F-198-2

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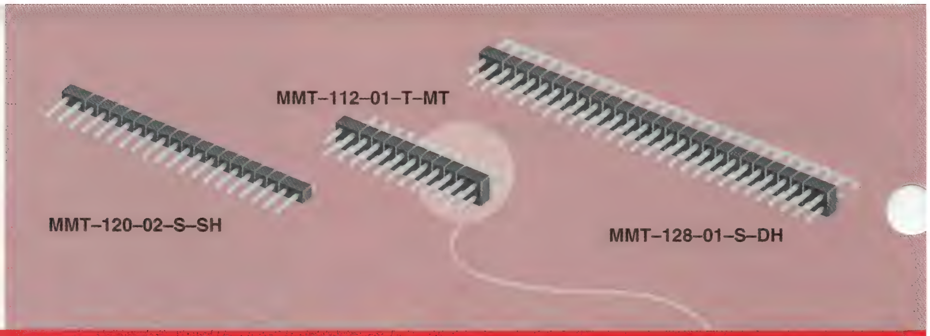
POPULAR CONNECTORS Ship Next DAY



Surface **SMT** Mount

2mm HORIZONTAL MMT SERIES

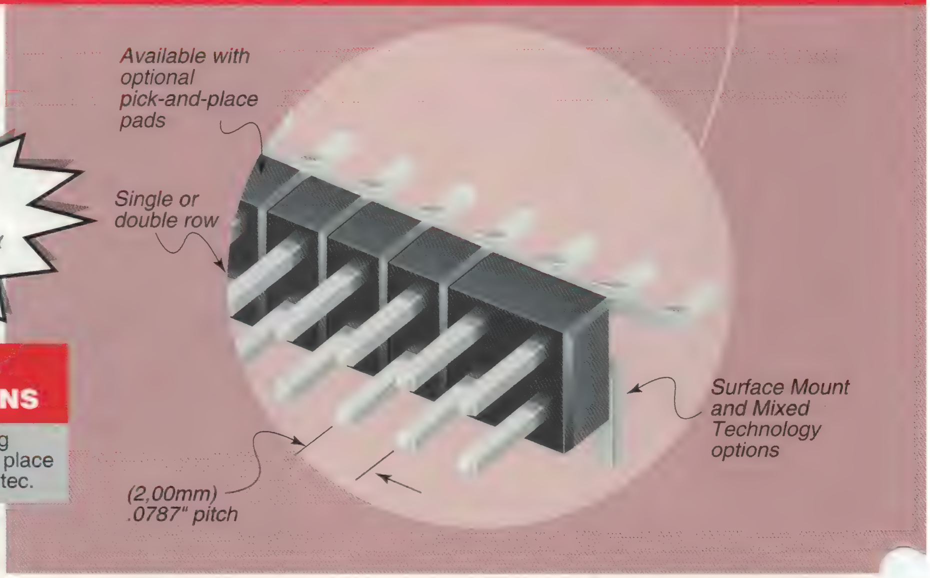
SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, TCSD

See TMM Series for vertical 2mm SMT



APPLICATION SPECIFIC OPTIONS

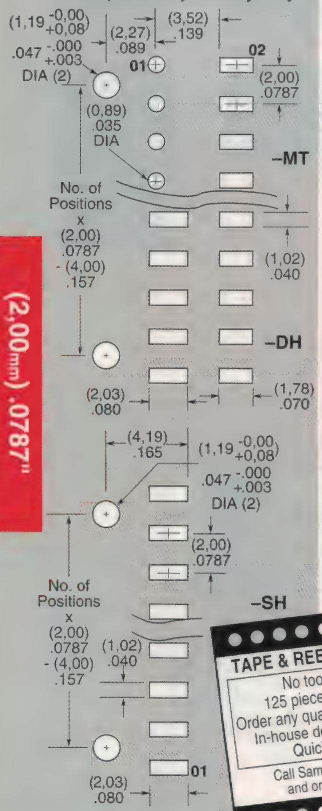
Alignment pins, locking clips, and molded pick and place pads available. Call Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

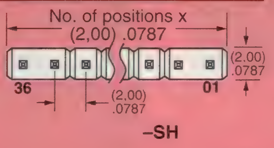
Processing:

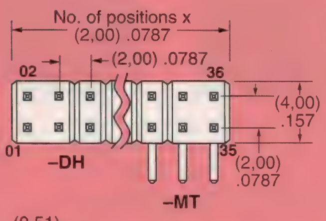
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

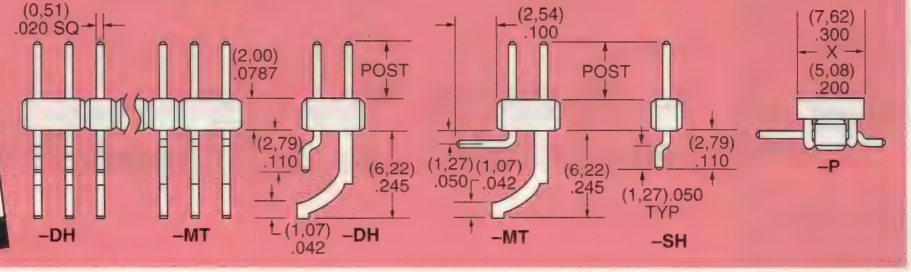
(2,00mm) .0787"



MMT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36		–01 = (3,20) .126 post –02 = (4,45) .175 post		–S = 30µ" (0,76µm) Gold on post, 150µ" (3,81µm) Tin on tail –T = 150µ" (3,81µm) Tin		–SH =Single Row –DH =Double Row –MT =Double Row Mixed Technology		–"XX" = Polarized Position Specify position of omitted pin –P Pick & Place Pad (3 positions minimum) –TR = Tape & Reel Packaging







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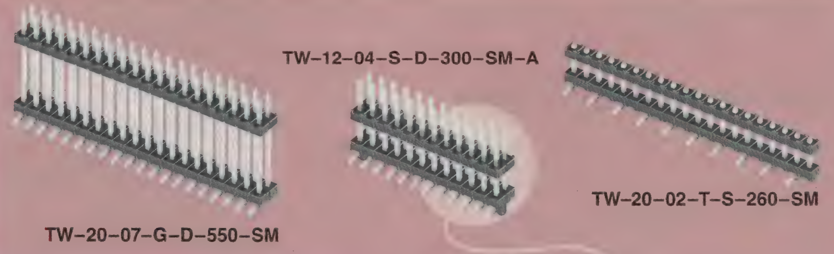


POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

T/H Page 102

BOARD STACKER TW SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni

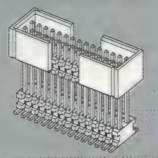
Note:
This Series is non-standard, non-returnable.

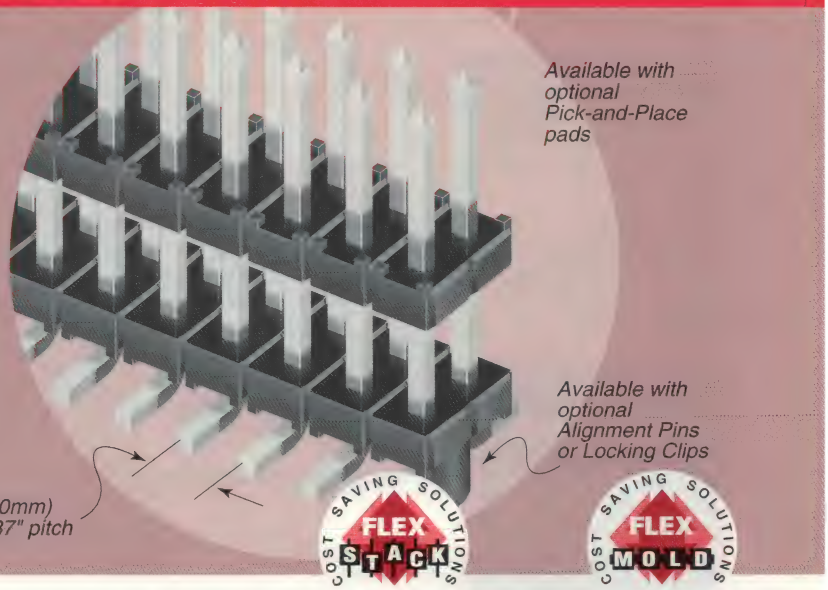
Mates with:
CLT, SQT, SQW, ESQT, TLE SMM, MMS, TCSD

APPLICATION SPECIFIC OPTIONS

Alignment pins, locking clips, end shrouds and end shrouds with guide posts available. Call Samtec for stacker height ranges and standard part numbers on double row.

COST SAVING SOLUTIONS FLEX SHROUD SEE PAGE 10



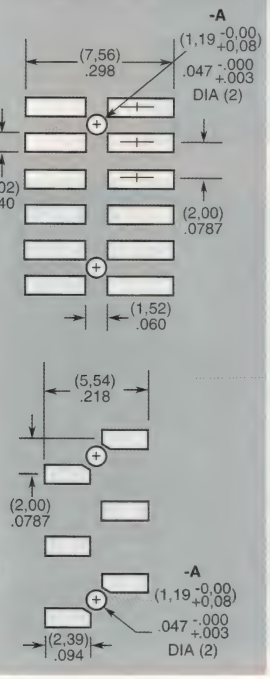


COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



TW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – SM – OTHER OPTIONS

02 thru 36

LEAD STYLE: Specify LEAD STYLE from chart below.

PLATING OPTION:

–G = 20µ" (0,51µm) Gold post Gold flash on tail

–S = 30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin on tail (Style –02 not available)

–T = 150µ" (3,81µm) Tin

–L = 10µ" (0,25µm) Gold post 150µ" (3,81µm) Tin on tail

ROW OPTION:

–S = Single Row

–D = Double Row

STACKER HEIGHT:

–"XXX" = Stacker Height In inches (0,13mm) .005" increments

Example: –250 = (6,35mm) .250"

OTHER OPTIONS:

–"XX" = Polarized Position

–M = Pick & Place Pad (1,91mm) .075" min. post height

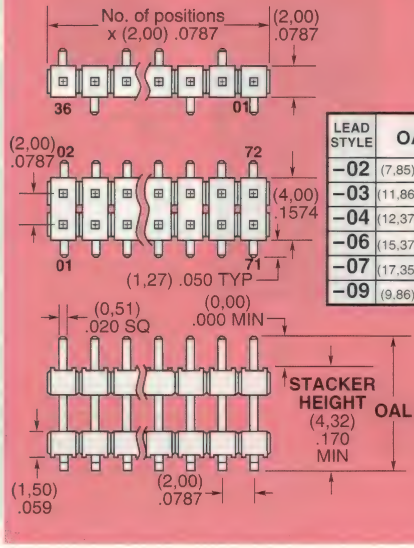
–LC = Locking Clip (4,83mm) .190" min. board space

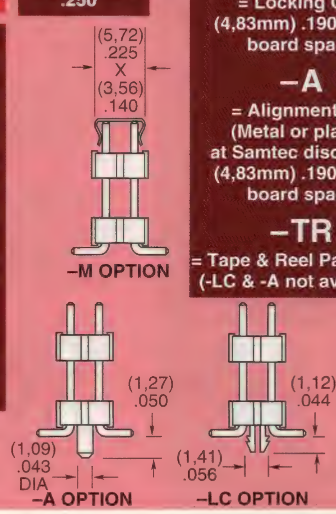
–A = Alignment Pin (Metal or plastic at Samtec discretion) (4,83mm) .190" min. board space

–TR = Tape & Reel Packaging (-LC & -A not available)

(2,00mm) .0787"

LEAD STYLE	OAL
–02	(7,85) .309
–03	(11,86) .467
–04	(12,37) .487
–06	(15,37) .605
–07	(17,35) .683
–09	(9,86) .388





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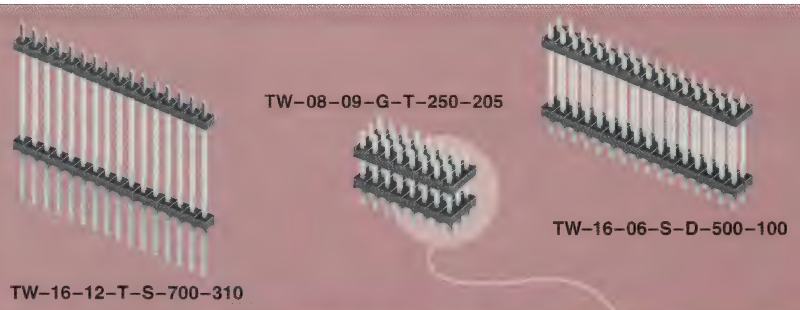
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

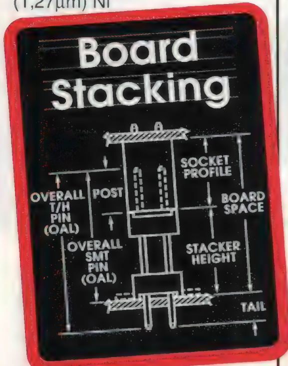
SMT Page 101

2mm BOARD STACKER TW SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

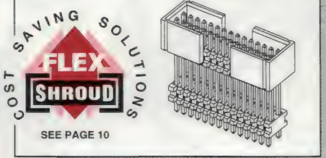


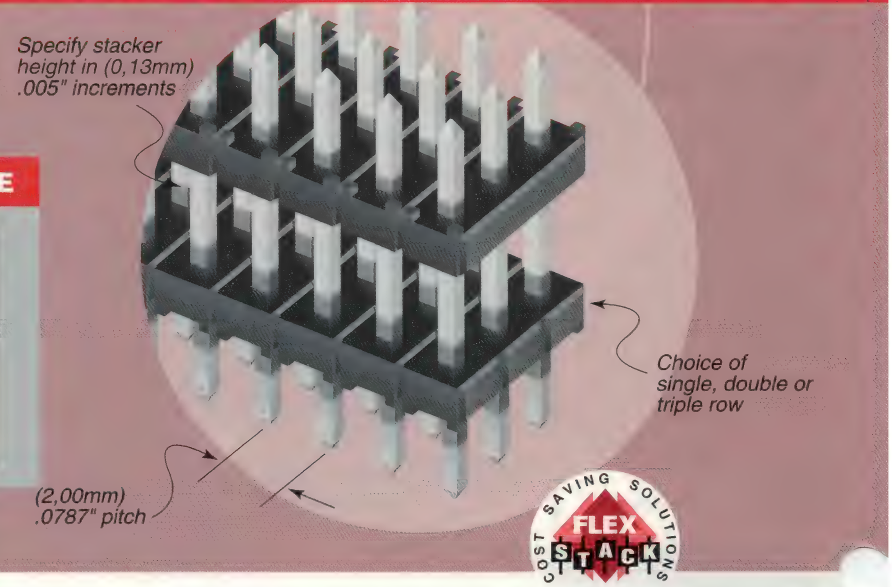
Note: This Series is non-standard, non-returnable.

Mates with: CLT, SQT, SQW, ESQT, TLE SMM, MMS, TCSD

ALSO AVAILABLE

Call Samtec for stacker height ranges and standard part numbers on double row.



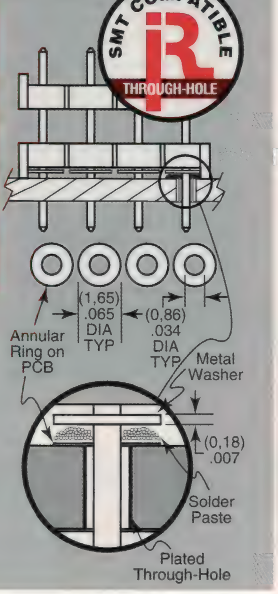


COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

Processing:

Max Processing Temp: 230°C for 60 seconds

(2,00mm) .0787"



TW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – TAIL SPEC

02 thru 50

LEAD STYLE: Specify LEAD STYLE from chart below.

PLATING OPTION:

–G = 20µ" (0,51µm) Gold contact area Gold flash on tail

–S = 30µ" (0,76µm) Gold contact area 150µ" (3,81µm) Tin on tail (Style –01 & –02 not available)

–T = 150µ" (3,81µm) Tin

–L = 10µ" (0,25µm) Gold contact area 150µ" (3,81µm) Tin on tail

ROW OPTION:

–S = Single Row

–D = Double Row

–T = Triple Row

STACKER HEIGHT:

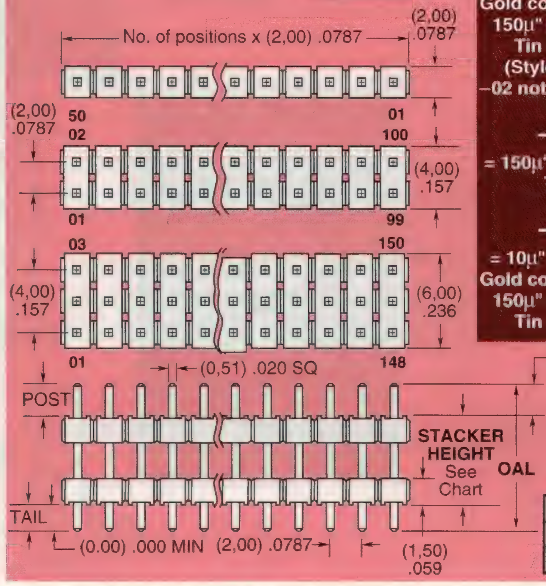
–"XXX" = Stacker Height In inches (0,13mm) .005" increments
Example: –250 = (6,35mm) .250"

TAIL SPEC:

–"XXX" = Tail Length In inches (0,13mm) .005" increments
Example: -150 = (3,81mm) .150"

–"XXX" = Polarized Position Specify position to be removed

–MW = Metal Washers on Solder Tails (–D & –T only) Requires (2,29mm) .090" to (12,24mm) .482" tails.



LEAD STYLE	OAL
–01	(8,00) .323
–02	(9,60) .377
–03	(13,60) .535
–04	(14,10) .555
–05	(15,10) .594
–06	(17,10) .673
–07	(19,10) .751
* –08	(21,10) .830
–09	(11,60) .456
–10	(15,60) .614
–11	(10,08) .397
* –12	(28,19) 1.110

*Style –08 & –12 N/A with –T Row option

ROW OPTION	STACKER HEIGHT
–S & –D	(3,05) .120 MIN
–T	(4,06) .160 MIN

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SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 SAMTEC JAPAN • Tel: 81-424-42-8318 • Fax: 81-424-42-8319
Due to technical progress, all designs, specifications and components are subject to change without notice.

F-198-2

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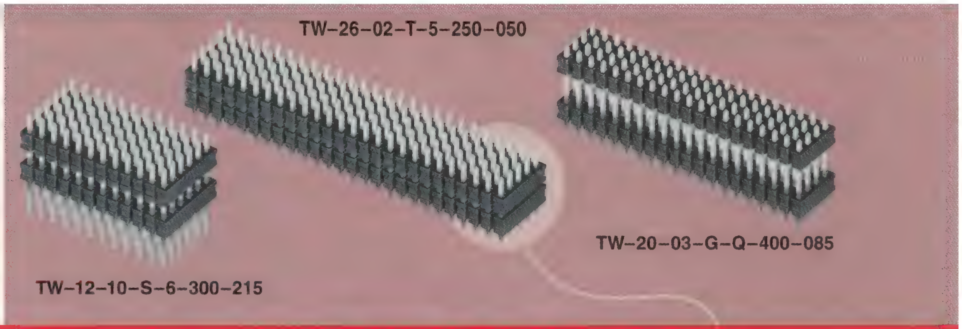
POPULAR CONNECTORS Ship Next DAY



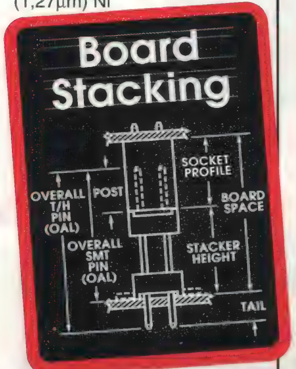
2mm HI-DENSITY STACKER TW SERIES

SPECIFICATIONS

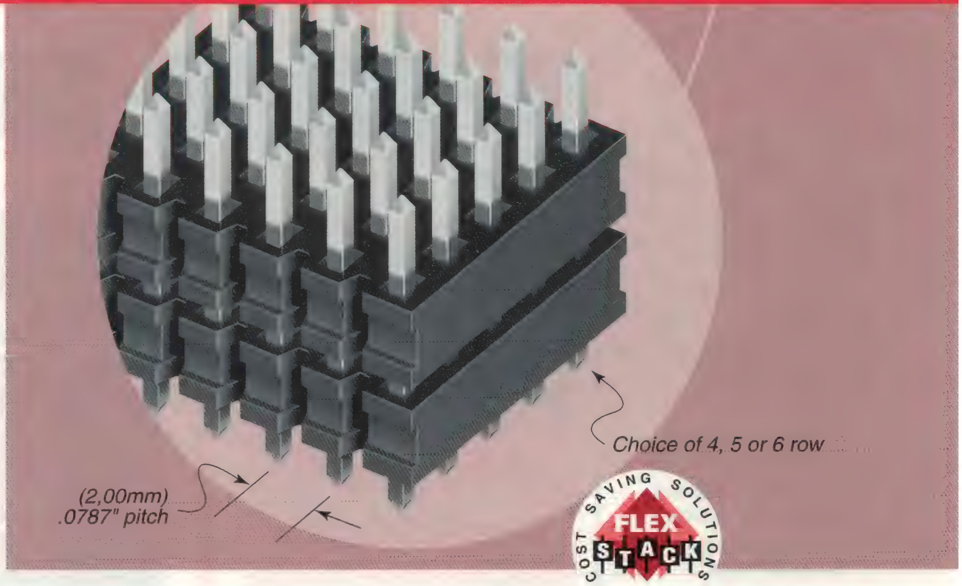
Mates with: SQT,SQW,ESQT

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni



Note:
This Series is non-standard, non-returnable.

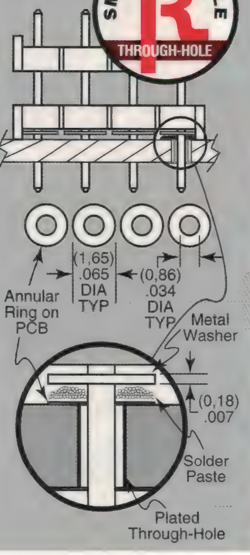


COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE



TW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – TAIL SPEC

02 thru 50

LEAD STYLE: Specify LEAD STYLE from chart below.

PLATING OPTION:

–G = 20µ" (0,51µm) Gold contact area Gold flash on tail

–S = 30µ" (0,76µm) Gold contact area 150µ" (3,81µm) Tin on tail (Style –01 & –02 not available)

–T = 150µ" (3,81µm) Tin

–L = 10µ" (0,25µm) Gold contact area 150µ" (3,81µm) Tin on tail

ROW OPTION:

–Q = Four Row

–5 = Five Row

–6 = Six Row

STACKER HEIGHT:

–"XXX" = Stacker Height In inches (0,13mm) .005" increments
Example: –250 = (6,35mm) .250"

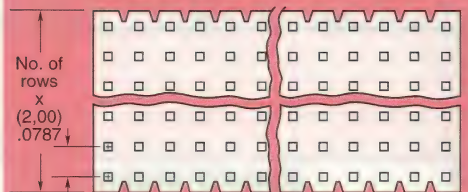
TAIL SPEC:

–"XXX" = Tail Length In inches (0,13mm) .005" increments
Example: -150 = (3,81mm) .150"

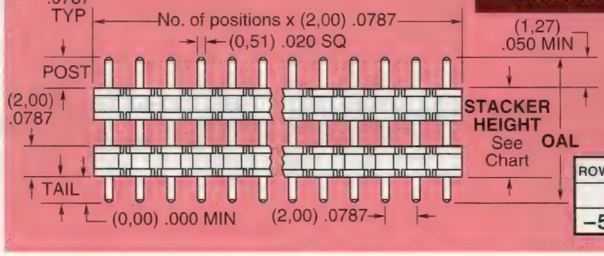
–"XXX" = Polarized Position

–MW = Metal Washers on Solder Tails (–Q only) Requires (2,29mm) .090" to (12,24mm) .482" tails.

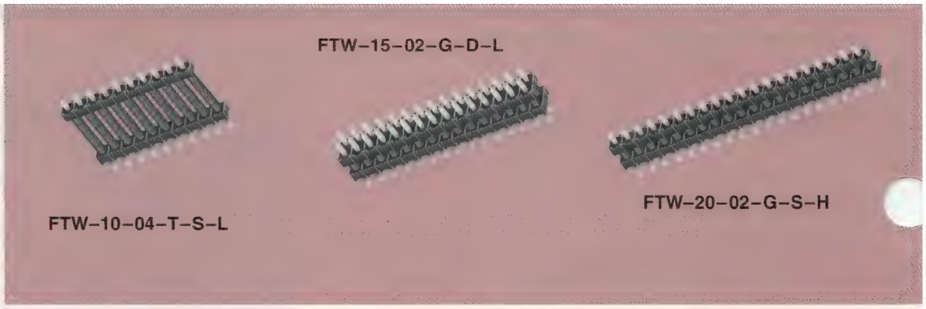
(2,00mm) .0787"



LEAD STYLE	OAL
–01	(8,00) .323
–02	(9,60) .377
–03	(13,60) .535
–04	(14,10) .555
–05	(15,10) .594
–06	(17,10) .673
–07	(19,10) .751
–09	(11,60) .456
–10	(15,60) .614
–11	(10,08) .397



ROW OPTION	STACKER HEIGHT
–Q	(3,05) .120 MIN
–5 & –6	(4,06) .160 MIN



POPULAR CONNECTORS Ship in 3 DAYS

LOW NOISE BOARD STACKER FTW SERIES

Mates with: CLT, SQT, ESQT, TLE, SMM, MMS, TCSD

For prototype quantities only. Call Samtec for production volume Ferrite shielding.

FTW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – FREQUENCY OPTION – TAIL OPTION

NO. PINS PER ROW

- **02 thru 50** =Through-Hole
- **02 thru 36** =Surface Mount

PLATING OPTION

- **–G** = 20µ" (0,51µm) Gold post area of longer tail Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold post 150µ" (3,81µm) Tin on tail Style –02 not available.
- **–T** = 150µ" (3,81µm) Tin

ROW OPTION

- **–S** =Single Row
- **–D** =Double Row

FREQUENCY OPTION

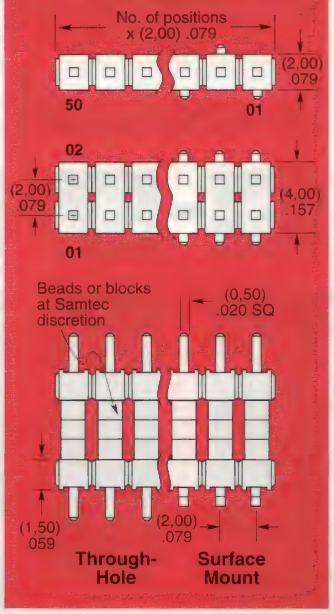
- **–L** = Low Frequency (EMI suppression < 30 MHz)
- **–H** = High Frequency (EMI suppression range 30 to 250 MHz)

TAIL OPTION

- **–SM** =Surface Mount

APPLICATION SPECIFIC OPTIONS

Alignment pins and locking clips available. Call Samtec.



Features:

- Low or high impedance ceramic insulators on each pin
- Wide range of board spacing achievable
- Through-hole and Surface Mount
- Single and double row

Specifications: FTW

Insulator Material: Black LCP and Gray Ferrite
Terminal Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to 125°C with Gold, -65°C to 105°C with Tin
Plating: Au or Sn over 50µ" (1,27µm) Ni
SMT Lead Coplanarity: (0,15mm) .006" max

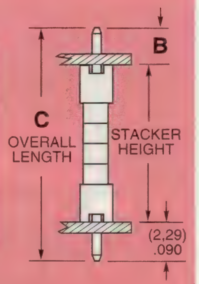
Note: This Series is non-standard, non-returnable.

(2,00mm) .0787"

Specify LEAD STYLE from chart

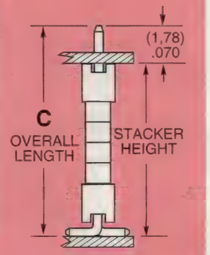
THROUGH-HOLE

LEAD STYLE	C	B	STACKER HEIGHT	IMPEDANCE FREQ	10MHz	25MHz	100MHz
–02	(9,58) .377	(2,72) .107	(4,57) .180	LOW HIGH	4.4Ω min —	7.5Ω ±20% 4.4Ω min	— 14Ω ±20%
–03	(13,60) .535	(2,16) .085	(9,14) .360	LOW HIGH	17.6Ω min —	30Ω ±20% 17.6Ω min	— 56Ω ±20%
–04	(15,10) .594	(2,13) .084	(10,67) .420	LOW HIGH	22Ω min —	37.5Ω ±20% 22Ω min	— 70Ω ±20%

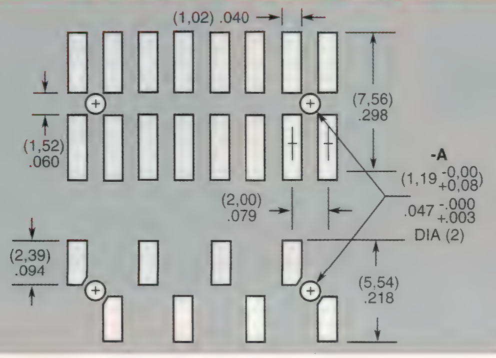


SURFACE MOUNT

LEAD STYLE	C	STACKER HEIGHT	IMPEDANCE FREQ	10MHz	25MHz	100MHz
–02	(8,08) .318	(6,30) .248	LOW HIGH	4.4Ω min —	7.5Ω ±20% 4.4Ω min	— 14Ω ±20%
–03	(11,13) .438	(9,35) .368	LOW HIGH	13.2Ω min —	22.5Ω ±20% 13.2Ω min	— 42Ω ±20%
–04	(12,65) .498	(10,87) .428	LOW HIGH	17.6Ω min —	30Ω ±20% 17.6Ω min	— 56Ω ±20%
–05	(15,70) .618	(13,92) .548	LOW HIGH	26.4Ω min —	45Ω ±20% 26.4Ω min	— 84Ω ±20%



SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



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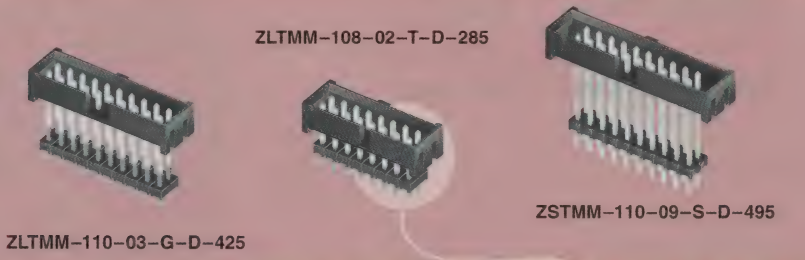
POPULAR CONNECTORS Ship in 3 DAYS



2mm SHROUDED STACKER ZSTMM, ZLTMM SERIES

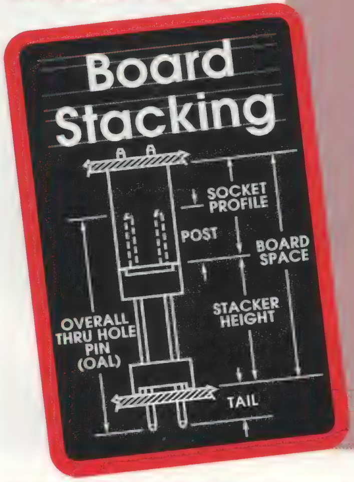
SPECIFICATIONS

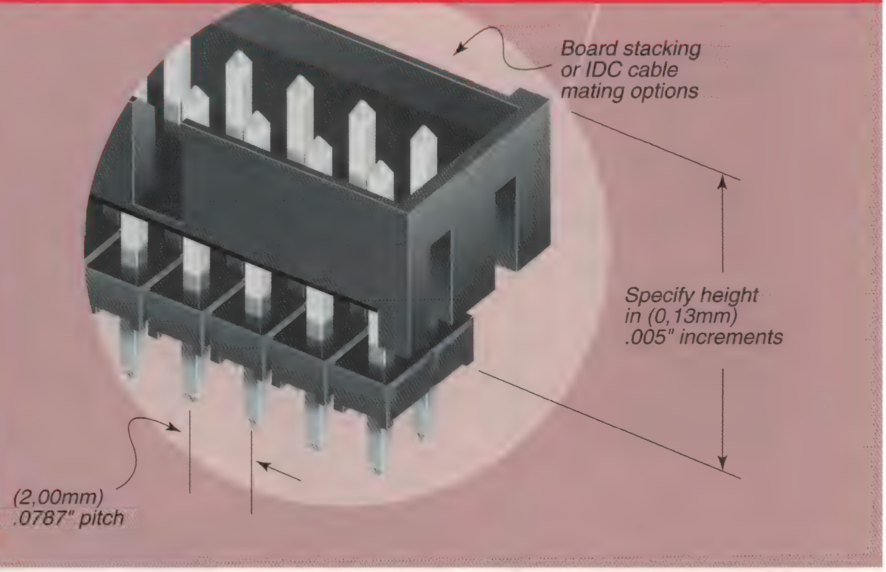
Materials:

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

Note: This Series is non-standard, non-returnable.

Mates with: SQT, SQW, ESQT, TLE, SMM, MMS, TCSD





Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!

www.samtec.com

TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – OTHER OPTION

TYPE STRIP

ZSTMM = Elevated Cable Strip (Requires (3,05mm) .120" post to mate with TCSD)

ZLTMM = Elevated Connector Strip

NO. PINS PER ROW

05, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Call Samtec for other sizes)

LEAD STYLE

Specify LEAD STYLE from chart below.

PLATING OPTION

–G = 20µ" (0,51µm) Gold post, Gold flash on tail

–S = 30µ" (0,76µm) Gold post, 150µ" (3,81µm) Tin on tail

–T = 150µ" (3,81µm) Tin

BODY HEIGHT

–"XXX" = Body Height

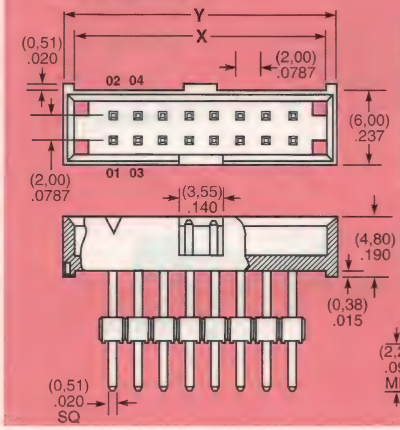
OTHER OPTION

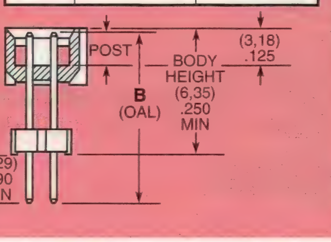
–"XX" = Polarized Position. Specify position for omitted pin

(2,00mm) .0787"

TYPE STRIP	X	Y
ZLTMM	(2,00) .0787 x No. of Positions + (0,61) .024	(2,00) .0787 x No. of Positions + (2,39) .094
ZSTMM	(2,00) .0787 x No. of Positions + (4,39) .173	(2,00) .0787 x No. of Positions + (6,17) .243

LEAD STYLE		POST	B (OAL)	MAX BODY HEIGHT
MATES WITH MMS, TLE	-55	(2,54) .100	(8,20) 0.323	(6,55) 0.258
	-02		(9,58) 0.377	(7,92) 0.312
	-05		(10,08) 0.397	(8,43) 0.332
	-13		(11,58) 0.456	(9,93) 0.391
	-03		(13,59) 0.535	(11,94) 0.470
	-06		(14,10) 0.555	(12,45) 0.490
	-09		(15,09) 0.594	(13,44) 0.529
	-14		(15,60) 0.614	(13,94) 0.549
	-10		(17,09) 0.673	(15,44) 0.608
	-11		(19,08) 0.751	(17,42) 0.686
	-12		(21,08) 0.830	(19,43) 0.765
MATES WITH SMM, SQT, SQW, ESQT, TCSD	-75	(3,05) .120	(9,58) 0.377	(7,42) 0.292
	-62		(10,08) 0.397	(7,92) 0.312
	-65		(10,49) 0.413	(8,33) 0.328
	-73		(12,09) 0.476	(9,93) 0.391
	-63		(14,10) 0.555	(11,94) 0.470
	-66		(15,09) 0.594	(12,93) 0.509
	-69		(15,60) 0.614	(13,44) 0.529
	-74		(17,09) 0.673	(14,94) 0.588
	-70		(17,60) 0.693	(15,44) 0.608
	-71		(21,08) 0.830	(18,92) 0.745
	-72		(21,62) 0.851	(19,46) 0.766





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Surface **SMT** Mount

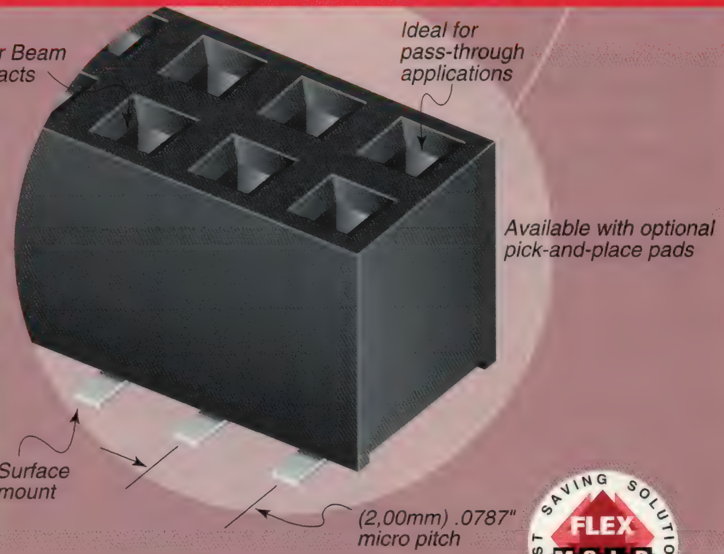
2mm STANDARD SOCKET TLE SERIES

SPECIFICATIONS

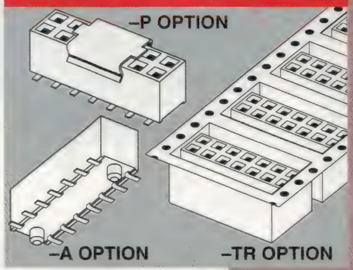
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C
Plating:
Au over 50μ" (1,27μm) Ni
Insertion Depth:
(2,08mm) .082" to (4,37mm) .172" with (0,38mm) .015" wipe, or pass-through
Insertion Force:
2.75oz (0,76N) avg
Withdrawal Force:
0.80oz (0,22N) avg

Mates with:
TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM



OPTIONS



COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

Note: Some lengths, styles and options are non-standard, non-returnable.

TLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTION

NO. PINS PER ROW: 02 thru 50

PLATING OPTION:
–G = 10μ" (0,25μm) Gold

OPTION:

–A = Alignment Pin (3 positions minimum) Metal or plastic at Samtec discretion.

–P = Pick & Place Pad (4 positions minimum)

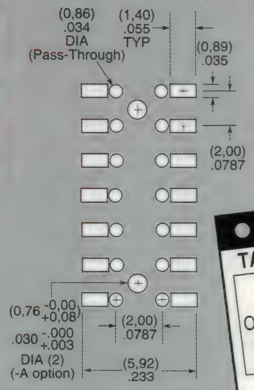
–K = (5,00mm) .197" DIA Polyimide Film Pick & Place Pad (3 positions minimum)

–TR = Tape & Reel Packaging

Processing:

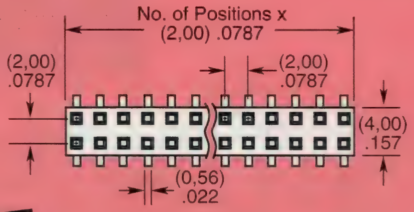
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity
02-26 = (0,10mm) .004" max
27-50 = (0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

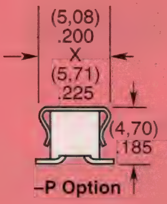
(2,00mm) .0787"

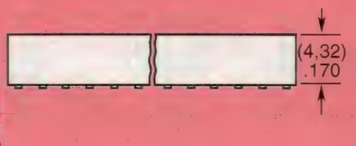


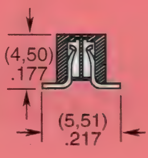
Board fixturing may be required to assure proper alignment for pass-through applications.

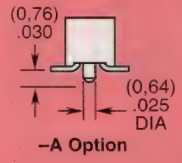
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.











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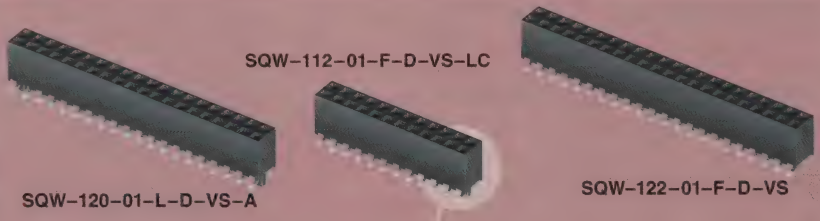


POPULAR CONNECTORS Ship in 3 DAYS

Surface SMT Mount

T/H Page 108

2mm SQ POST SOCKET SQW SERIES

SPECIFICATIONS

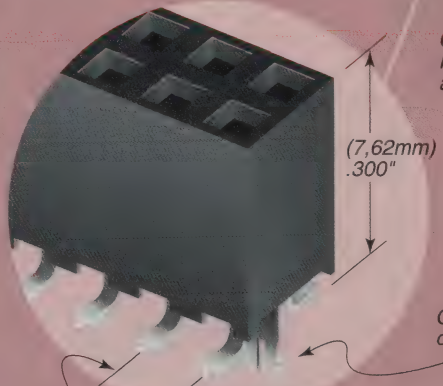
Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to +105°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (5,03mm) .198" with (0,38mm) .015" wipe
Max Cycles: 100 with 10µ" (0,25µm) Au
Insertion Force: 1.8oz (0,50N) avg
Withdrawal Force: 1.0oz (0,28N) avg

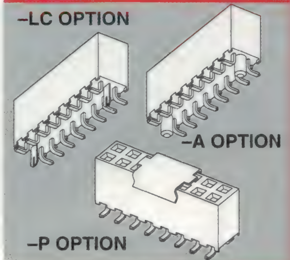
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM

TIGER BUY CONTACT



OPTIONS



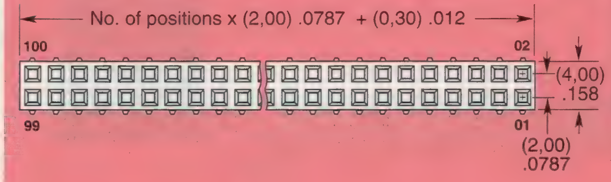
COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

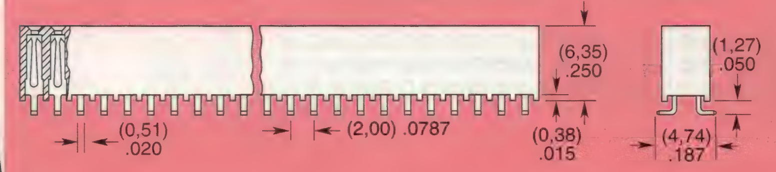
SQW – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – D – VS – OTHER OPTION

02 thru 50

PLATING OPTION:
- **–L** = 10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail
- **–F** = Gold flash on contact 150µ" (3,81µm) Tin on tail

OTHER OPTION:
- **–A** = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion.
- **–LC** = Locking Clip (5 positions minimum)
- **–P** = Pick & Place Pad (4 positions minimum)
- **–"XXX"** = Polarized Position
- **–TR** = Tape & Reel Packaging (4 thru 28 positions only)

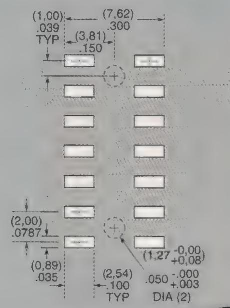




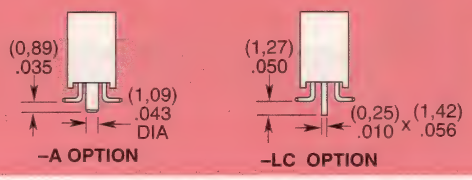
(2,00mm) .0787"

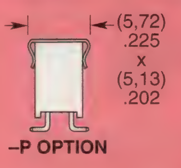
Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,15mm) .006" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.





F-198-2

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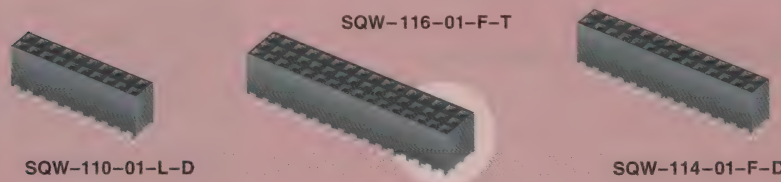
POPULAR CONNECTORS Ship in 3 DAYS



Through Hole T/H | SMT Page 107

2mm SQ POST SOCKET SQW SERIES

SPECIFICATIONS

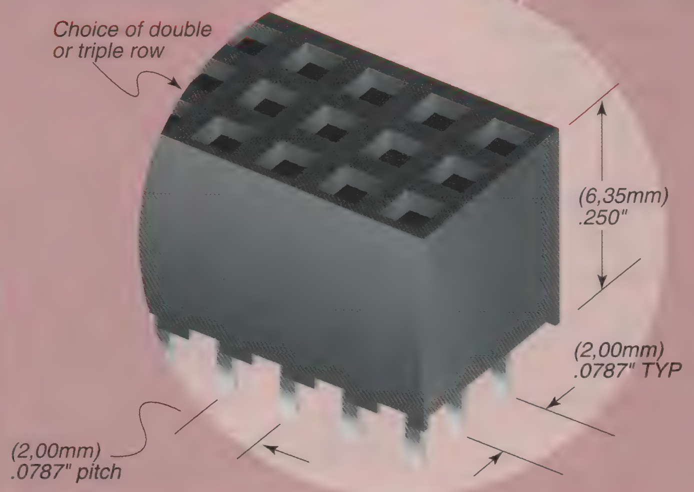
Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Operating Temp Range: -65°C to +105°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (5,03mm) .198" with (0,38mm) .015" wipe
Max Cycles: 100 with 10µ" (0,25µm) Au
Insertion Force: 1.8oz (0,50N) avg
Withdrawal Force: 1.0oz (0,28N) avg

Note: Some lengths, styles and options are non-standard, non-returnable.

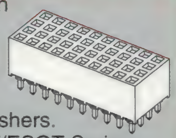
Mates with: TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM

TIGER BUY CONTACT



ALSO AVAILABLE

Ultra-High Density, Elevated & square tail with metal washers. See SQT/ESQT Series



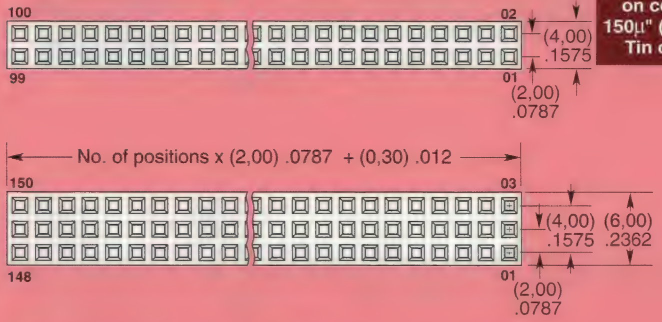
SQW	– 1	NO. PINS PER ROW	– 01	– PLATING OPTION	– ROW OPTION	– OTHER OPTION
		02 thru 50		**–L** = 10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail **–F** = Gold flash on contact 150µ" (3,81µm) Tin on tail	**–D** = Double Row **–T** = Triple Row	**–"XXX"** = Polarized Position (Indicate position number)

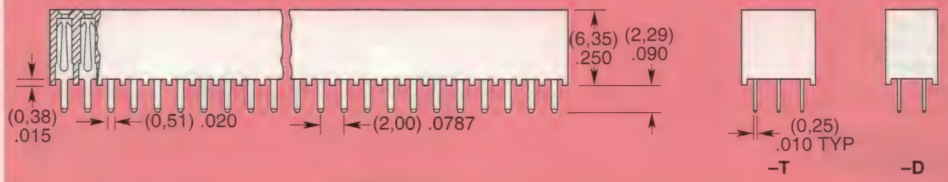
Processing:

Max Processing Temp: 230°C for 60 seconds

(2,00mm) .0787"

SMT COMPATIBLE iR THROUGH-HOLE





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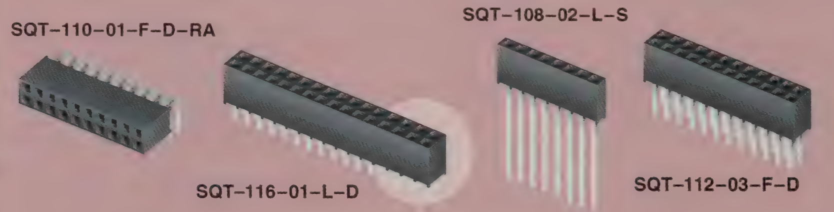
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

2mm SQ TAIL SOCKET SQT SERIES

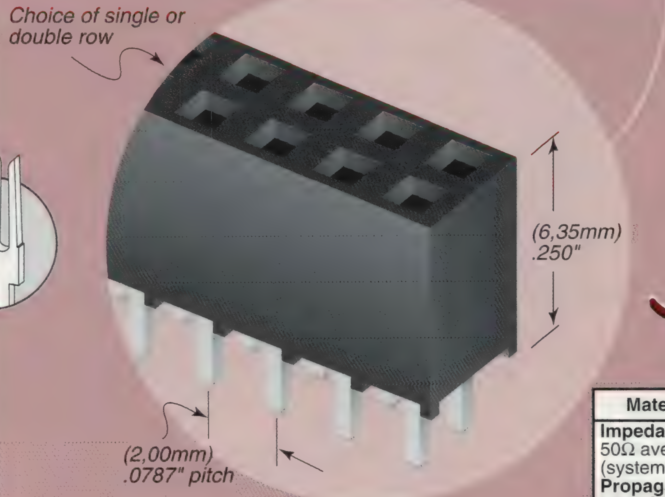
SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (5,03mm) .198" with (0,38mm) .015" wipe
Insertion Force: 4oz (1,11N) average
Normal Force: 60 grams (0,59N) average
Withdrawal Force: 3oz (0,83N) average
Max Cycles: 100 with 10µ" (0,25µm) Au

Mates with: TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM, ESQT

TIGER BUY CONTACT



CURRENT RATING	
AMBIENT TEMP	Mated with TMM/TMMH
20°C	5.5A
40°C	5A
60°C	4A
80°C	3A

HIGH SPEED INTERCONNECT

Mated with TMM(H)
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 52.7pS @ 100pS
Cross Talk: -25dB G/S/S/G @ 1.0 GHz

Note: Some lengths, styles and options are non-standard, non-returnable.

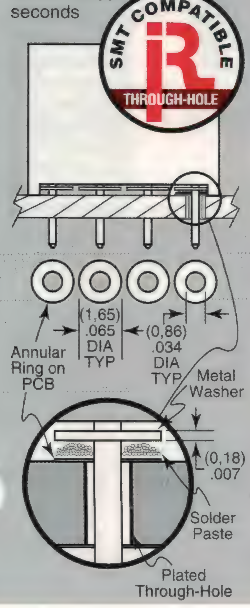
SQT – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

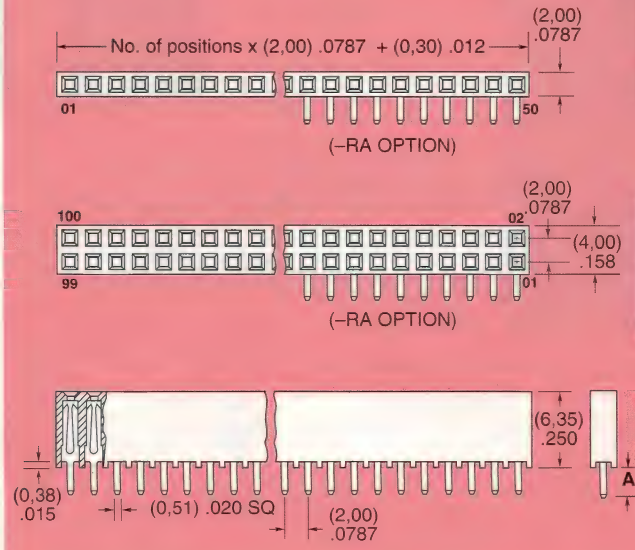
NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
02 thru 50	Specify LEAD STYLE from chart	**–L** = 10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail **–F** = Gold flash on contact 150µ" (3,81µm) Tin on tail	**–S** = Single Row **–D** = Double Row	**–"XXX"** = Polarized Position **–RA** = Right Angle (Style –01 only) (Single & Double row only) **–MW** = Metal Washers on Solder Tails (30 pins per row maximum) (Styles –01 & –03 only) –RA not available

Processing:

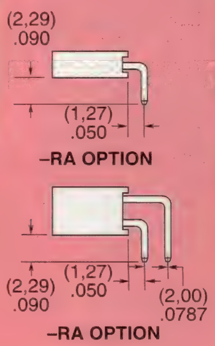
Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE





LEAD STYLE	A
–01	(2,29) .090
–02	(15,24) .600
–03	(5,28) .208



(2,00mm) .0787"

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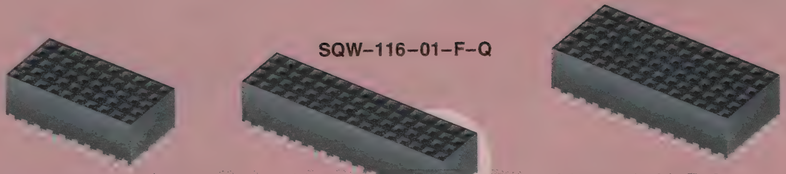
POPULAR CONNECTORS Ship in 3 DAYS



SQW–110–01–L–5 SQW–116–01–F–Q SQW–114–01–F–6

Through T/H Hole

2mm HIGH DENSITY SQW, SQT SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (5,03mm) .198"
Max Cycles: 100 with 10µ" (0,25µm) Au

CURRENT RATING	
AMBIENT TEMP	Mated with TMM/TMMH
20°C	5.5A
40°C	5A
60°C	4A
80°C	3A

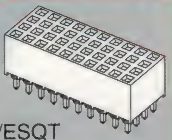
Note: Some lengths, styles and options are non-standard, non-returnable.

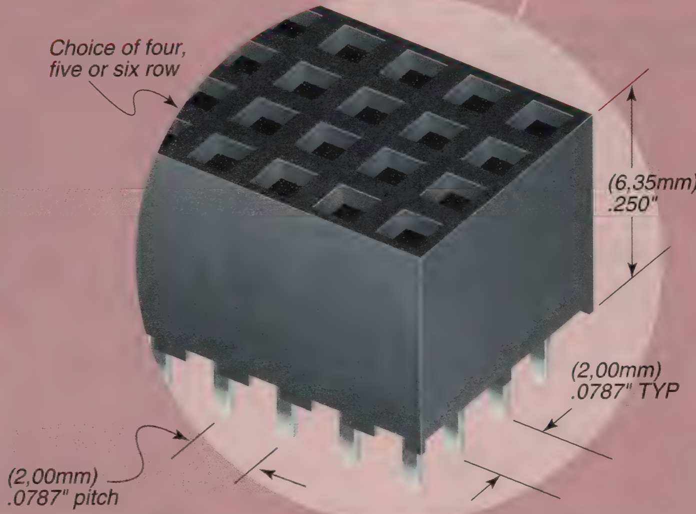
Mates with: TMM, TMMH, TW, ESQT

TIGER BUY CONTACT

ALSO AVAILABLE

Elevated & square tail with metal washers. See SQT/ESQT Series



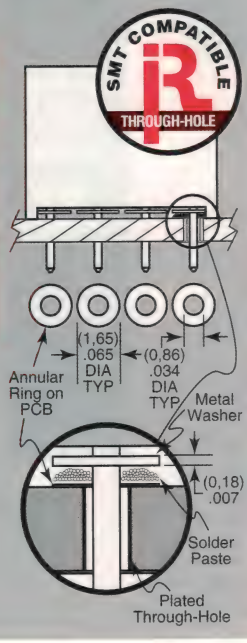


Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

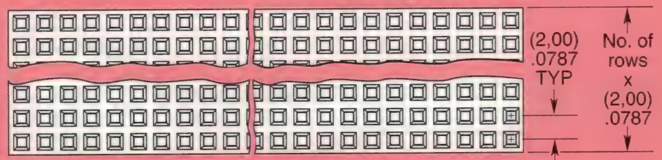
(2,00mm) .0787"

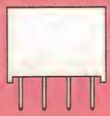


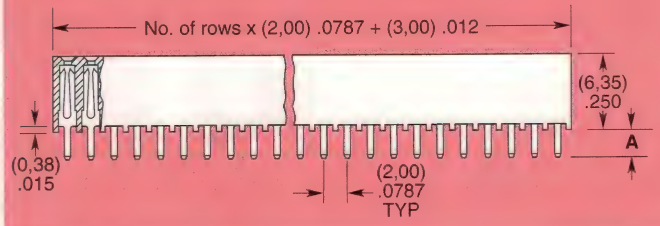
TYPE SOCKET	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
SQW = Flat Tail (Style –01 only) **SQT** = Square Tail (–6 not available)			**02 thru 50**		Specify LEAD STYLE from chart		**–L** =10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail **–F** =Gold flash on contact 150µ" (3,81µm) Tin on tail		**–Q** = Four Row **–5** = Five Row **–6** = Six Row (SQW only)		**–"XXX"** =Polarized Position (Indicate position number) **–MW** = Metal Washers on Solder Tails (30 pins per row maximum) (SQT only)

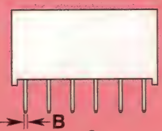
TYPE SOCKET	B
SQW	(0,25) .010 x (0,51) .020
SQT	(0,51) .020 SQ

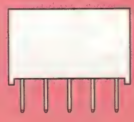
LEAD STYLE	A
–01	(2,29) .090
–02	(15,24) .600
–03	(5,28) .208











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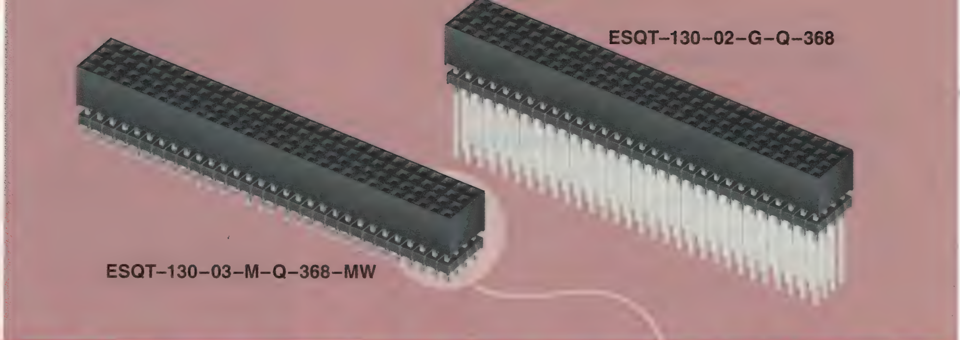
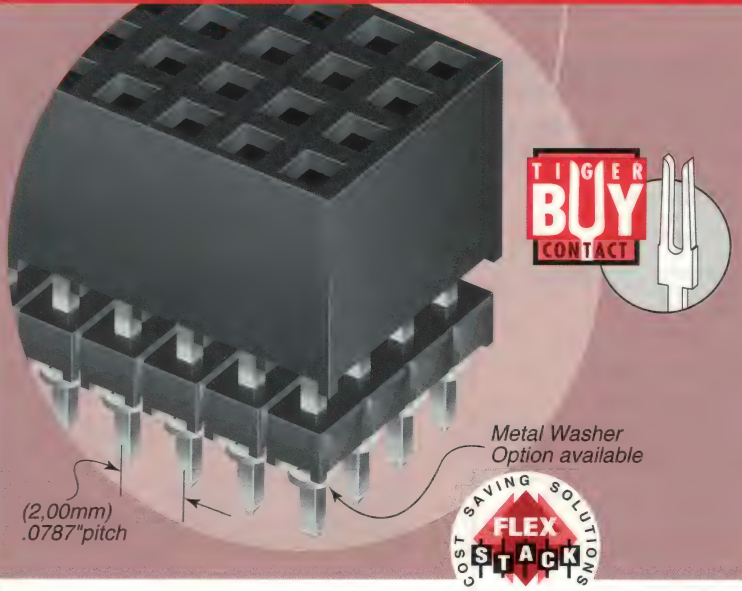
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

2mm ELEVATED SOCKET ESQT, ATS SERIES



SEE PAGE 7

SPECIFICATIONS

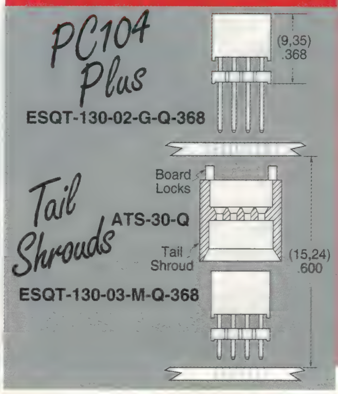
Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +105°C
Plating:
Sn or Au over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(2,62mm) .103" to
(5,03mm) .198" with
(0,38mm) .015" wipe
Max Cycles:
100 with 10µ" (0,25µm) Au
Insertion Force:
1.8oz (0,50N) avg
Withdrawal Force:
1.0oz (0,28N) avg

Note:
This Series is non-standard, non-returnable.

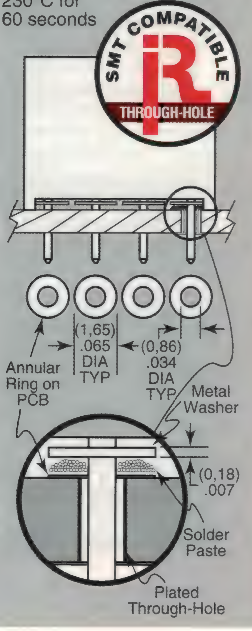
Mates with:
TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM, ESQT

APPLICATIONS



Processing:

Max Processing Temp:
230°C for
60 seconds



ESQT – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – BODY HEIGHT – OTHER OPTION

02 thru 50

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:

–G = 20µ" (0,51µm) Gold (Recommended for self-nesting)

–M = 20µ" (0,51µm) Gold on contact 150µ" (3,81µm) Tin on tail

–L = 10µ" (0,25µm) Gold on contact 150µ" (3,81µm) Tin on tail

–F = Gold flash on contact 150µ" (3,81µm) Tin on tail

ROW OPTION:

–S = Single Row

–D = Double Row

–T = Triple Row

–Q = Quad Row

–5 = Five Row

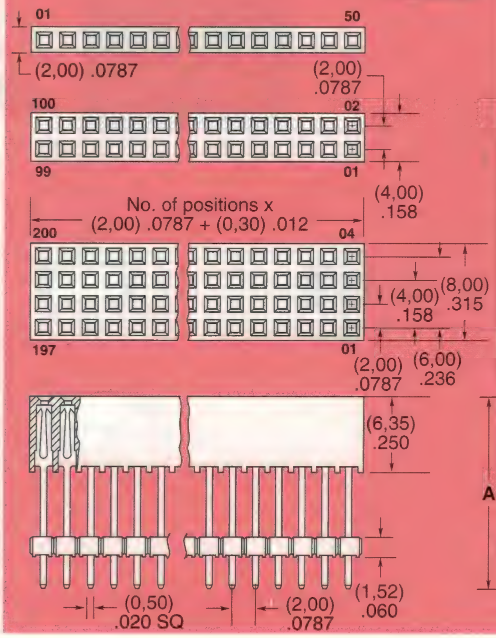
–6 = Six Row

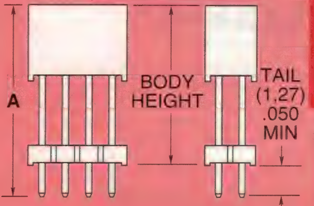
BODY HEIGHT:

–"XXX" = Body Height (in inches) (7,87mm) .310" min for –S, –D, –T (9,53mm) .375" min for –Q, –5, –6

OTHER OPTION:

–MW = Metal Washers on Solder Tails (30 pins per row maximum) Requires (2,29mm) .090" to (12,24mm) .482" tails





LEAD STYLE	A	MAX TAIL	MAX BODY HEIGHT
–02	(21,59) .850	(13,72) .540	(20,32) .800
–03	(11,63) .458	(3,76) .148	(10,36) .408

(2,00mm) .0787"

F-198-2

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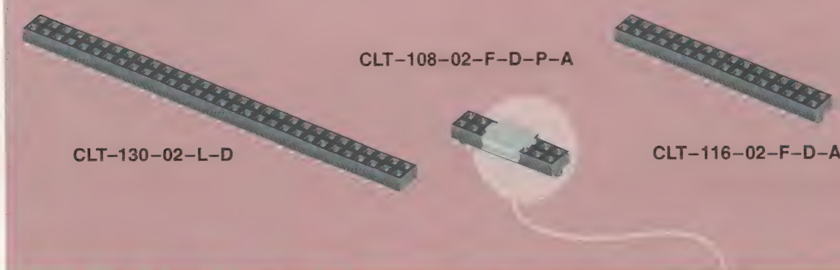


POPULAR CONNECTORS Ship Next DAY

Surface SMT Mount

T/H Page 113

2mm LOW PROFILE CLT SERIES

SPECIFICATIONS

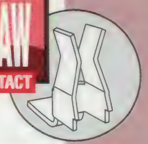
Materials:

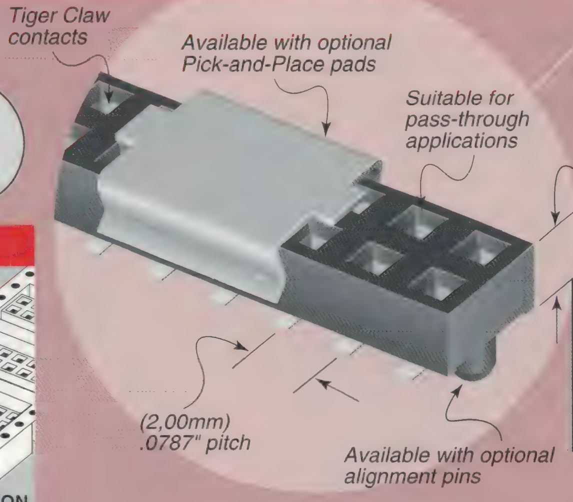
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: Top Entry= (1,40mm) .055" minimum Bottom Entry= (2,20mm) .087" minimum (add board thickness for correct post OAL)
Insertion Force: 1.8oz (0,50N) avg
Withdrawal Force: .6oz (0,17N) avg
Max Cycles: 100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: TMM, TMMH, MTMM, MMT, TW, FTW

TIGER CLAW CONTACT

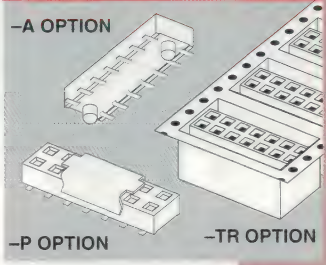




HIGH SPEED INTERCONNECT

Mated with TMM(H)
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 57pS @ 100pS
Cross Talk: -19 dB G/S/S/G @ 1 GHz

OPTIONS



COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

CLT – 1 NO. PINS PER ROW – 02 – PLATING OPTION – D – OTHER OPTIONS

02 thru 50

PLATING OPTION:

–L = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin tail

–F = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin tail

OTHER OPTIONS:

–BE = Bottom Entry (Required for bottom entry applications)

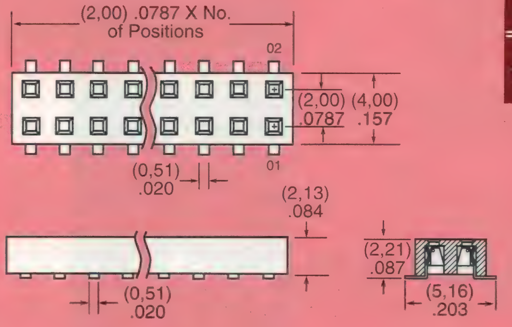
–P = Pick & Place Pad (4 positions minimum) (Not always necessary for auto placement. See Flex Processing.)

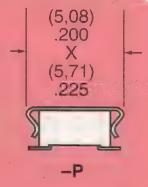
–K = (5,00mm) .197" DIA Polyimide Film Pick & Place Pad (04 thru 35 only)

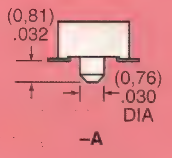
–A = Alignment Pin (3 positions minimum) (Metal or plastic at Samtec discretion)

– TR = Tape & Reel Packaging

COST SAVING SOLUTIONS FLEX PROCESSING
SEE PAGE 17



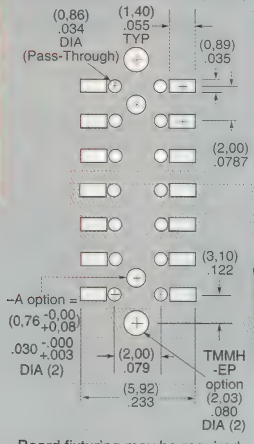




Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary

(2,00mm) .0787"



Board fixturing may be required to assure proper alignment for pass-through applications.

TAPE & REEL AVAILABILITY
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In-house design, manufacture.
Quick turn-around.
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POPULAR CONNECTORS Ship Next DAY

Through T/H Hole

SMT Page 112

2mm LOW PROFILE CLT SERIES

SPECIFICATIONS

Materials:

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +125°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: Top Entry= (1,40mm) .055" minimum Bottom Entry= (2,13mm) .084" minimum (add board thickness for correct post OAL)
Insertion Force: 1.8oz (0,50N) avg
Withdrawal Force: .6oz (0,17N) avg
Max Cycles: 100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Processing:
Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

SUDDEN SPECS!

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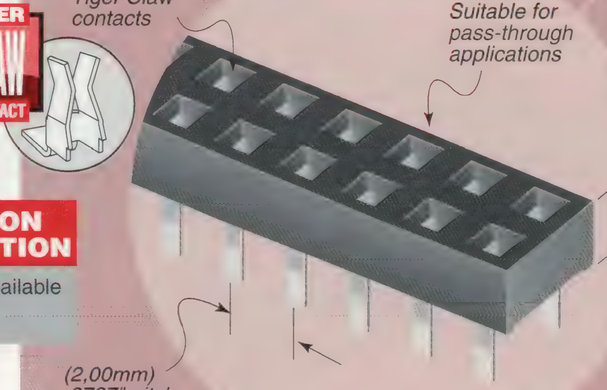
Mates with: TMM, TMMH, MTMM, MMT, TW, FTW

TIGER CLAW CONTACT

APPLICATION SPECIFIC OPTION

Polarized option available
Call Samtec.



HIGH SPEED INTERCONNECT

Mated with TMM(H)
Impedance: 50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay: 57pS @ 100pS
Cross Talk: -19 dB G/S/S/G @ 1 GHz

CLT – 1 NO. PINS PER ROW – 01 – PLATING OPTION – D

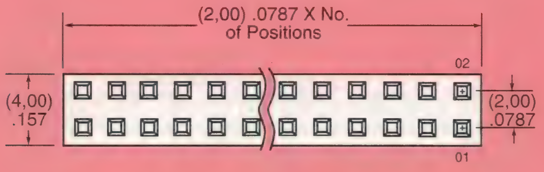
NO. PINS PER ROW: 02 thru 50

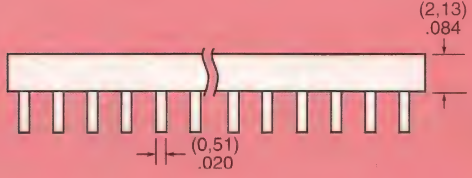
PLATING OPTION:

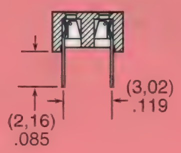
–L = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin tail

–F = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin tail

(2,00mm) .0787"







F-198-2

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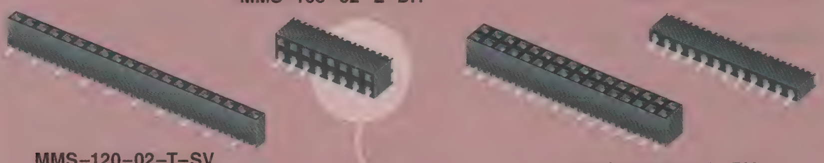
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

T/H Page 115

2mm BOX SOCKET MMS SERIES

SPECIFICATIONS

Materials:

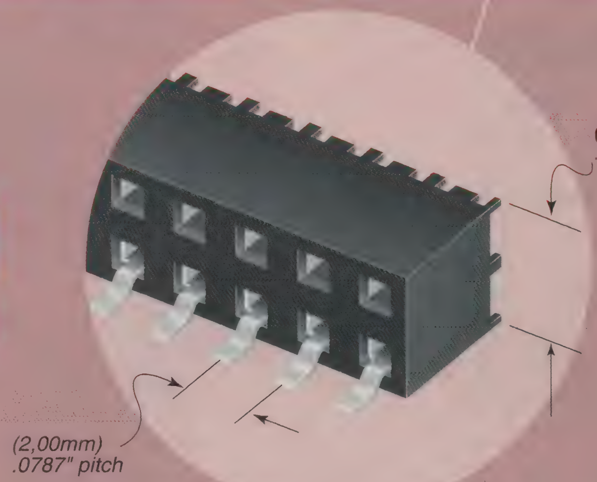
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 2A @ 80°C ambient
Operating Temp Range: -65°C to +125°C with Gold -65°C to +105°C with Tin
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: DH= (2,13mm) .084" to (2,79mm) .110" SH= (2,13mm) .084" minimum Top Entry DV/SV= (2,13mm) .084" to (4,32mm) .170" Bottom Entry DV/SV= (4,27) .168" minimum (Add board thickness for correct post OAL)
Insertion Force: 3.7oz (1,03N) avg
Withdrawal Force: 2.2oz (0,61N) avg

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM, TCMD

APPLICATION SPECIFIC OPTIONS

Locking clips available. Call Samtec.



MMS – 1 NO. PINS PER ROW – 02 – PLATING OPTION – ROW OPTION – OTHER OPTION

02 thru 40

PLATING OPTION:
- **–L** = 10µ" (0,25µm) Gold contact, 150µ" (3,81µm) Tin tail
- **–T** = 150µ" (3,81µm) Tin

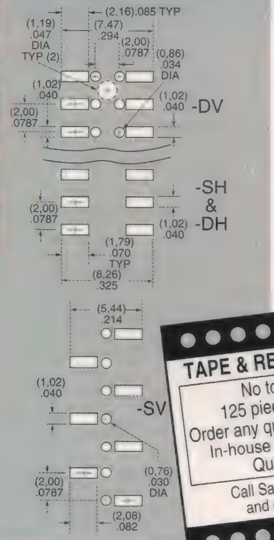
ROW OPTION:
- **–SV** = Single Vertical
- **–SH** = Single Horizontal
- **–DV** = Double Vertical
- **–DH** = Double Horizontal

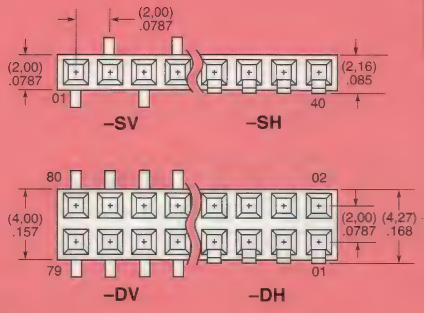
OTHER OPTION:
- **– "XX"** = Polarized Position
- **– TR** = Tape & Reel Packaging
- **– P** = Pick & Place Pad (4 positions minimum) (–SV & –DV only)
- **–K** = (5,50mm) .217" DIA Polyimide Film Pick & Place Pad (4 positions minimum) (–DV only)

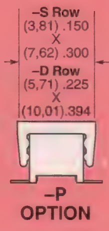
Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: -SH (02-20) & -SV/-DV (02-40) = (0,10mm) .004" max All others = (0,15mm) .006" max
Suggested PCB Layouts: Your specific layout may vary

(2,00mm) .0787"



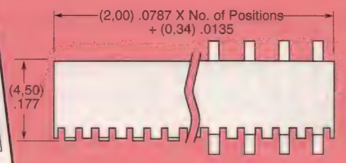


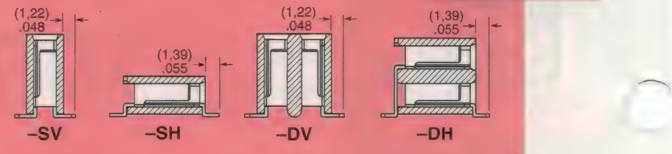


TAPE & REEL AVAILABILITY

No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.

Call Samtec for specifications and ordering information.





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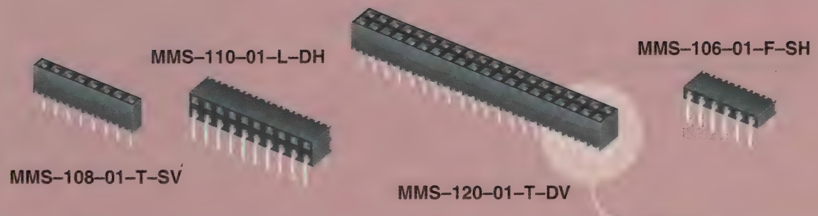


Through T/H Hole

SMT Page 114

2mm BOX SOCKET MMS SERIES

SPECIFICATIONS

Materials:

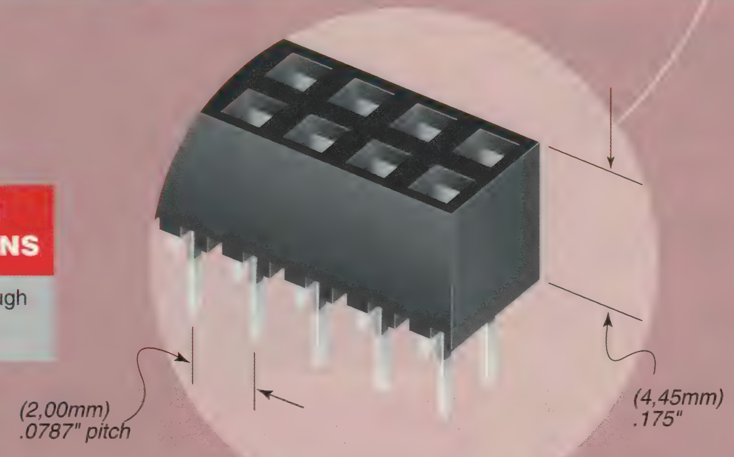
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +125°C with Gold -65°C to +105°C with Tin
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: DH= (2,13mm) .084" to (2,79mm) .110" with (0,38mm) .015" wipe SH= (2,13mm) .084" minimun with (0,38mm) .015" wipe or pass-through Top Entry DV/SV= (2,13mm) .084" to (4,32mm) .170" with (0,38mm) .015" wipe Bottom Entry DV/SV= (4,27) .168" minimum (Add board thickness for correct post OAL)

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: TMMH, TMM, MTMM, MMT, TW, FTW, LTMM, ZLTMM, TCMD

APPLICATION SPECIFIC OPTIONS

Through-hole pass-through options available. Call Samtec.

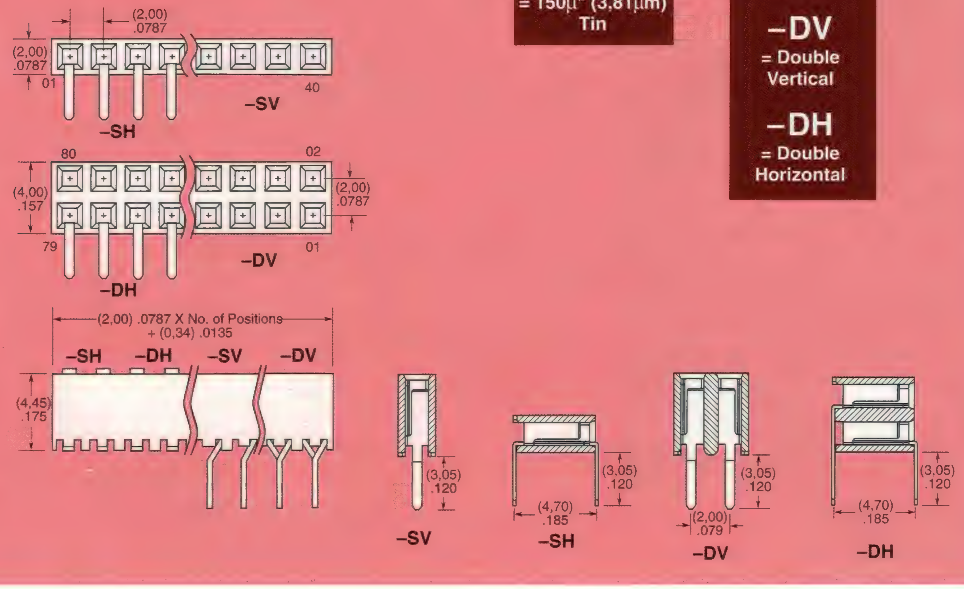


Processing:

Max Processing Temp: 230°C for 60 seconds

SMT COMPATIBLE THROUGH-HOLE

MMS	–	1	–	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
				02 thru 40				**–L** = 10µ" (0,25µm) Gold contact, 150µ" (3,81µm) Tin tail **–T** = 150µ" (3,81µm) Tin		**–SV** = Single Vertical **–SH** = Single Horizontal **–DV** = Double Vertical **–DH** = Double Horizontal		**–"XX"** = Polarized Position



(2,00mm) .0787"

SUDDEN SPECS! www.samtec.com

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POPULAR CONNECTORS Ship Next DAY

Surface **SMT** Mount

T/H Page 117

2mm HIGH REL SOCKET SMM SERIES

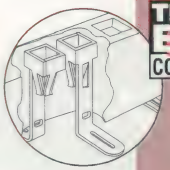
SPECIFICATIONS

Materials:

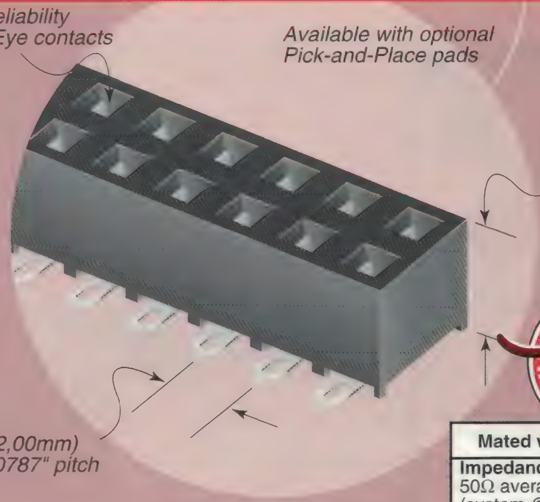
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,05mm) .120" to (3,25mm) .128"
Insertion Force:
4.5oz (1,25N) average
Withdrawal Force:
3.0oz (0,83N) average
Max Cycles:
100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TMM, TMMH, MTMM, MMT, LTMM, TW, FTW, TCMD



TIGER EYE CONTACT



POLARIZING KEY

Specify PK–01–07 for polarizing key. Also polarizes TCSD Series IDC Cable.

APPLICATION SPECIFIC OPTION

Locking clip option available. Call Samtec.

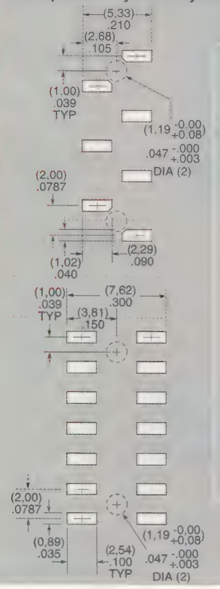
HIGH SPEED INTERCONNECT

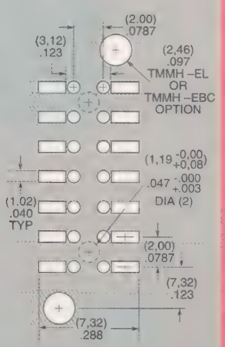
Mated with TMM(H)
Impedance:
50Ω average @ 100 MHz (system @ 50Ω)
Propagation Delay:
61pS @ 100pS
Cross Talk:
-22 dB G/S/S/G @ 1 GHz

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,10mm) .004" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

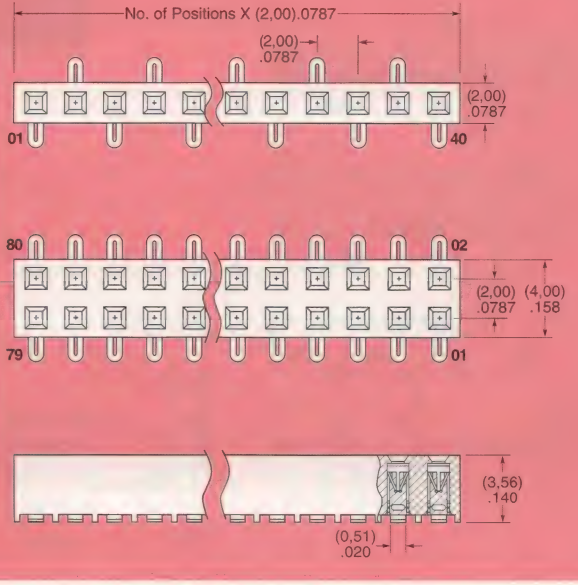
(2,00mm) .0787"

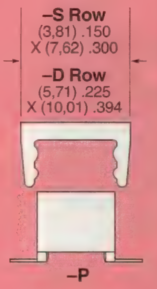


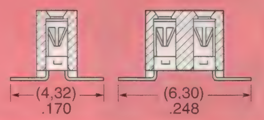


Pass-Through

SMM	–	1	–	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
				02 thru 40				**–S** =30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin tail		**–S** = Single Row **–D** = Double Row		**–P** = Pick & Place Pad **–K** = (5,50mm) .217" DIA Polyimide Film Pick & Place Pad (3 positions minimum) (–D only) **–"XX"** = Polarized Position **–TR** = Tape & Reel Packaging







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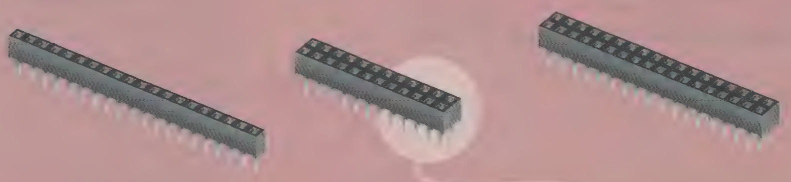
SMM–120–01–S–S

SMM–112–01–S–D

SMM–118–01–S–D



Through T/H Hole

SMT Page 116

HIGH REL SOCKET SMM SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
3A @ 80°C ambient
Operating Temp Range:
-65°C to +125°C
Plating:
Sn or Au over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,05mm) .120" to
(3,25mm) .128"
Insertion Force:
4.5oz (1,25N) average
Withdrawal Force:
3.0oz (0,83N) average
Max Cycles:
100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

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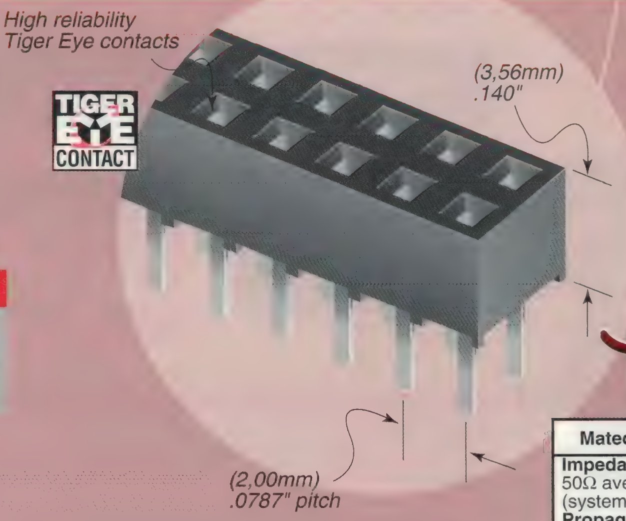
Mates with:
TMM, TMMH, MTMM, MMT, LTMM, TW, FTW, TCMD



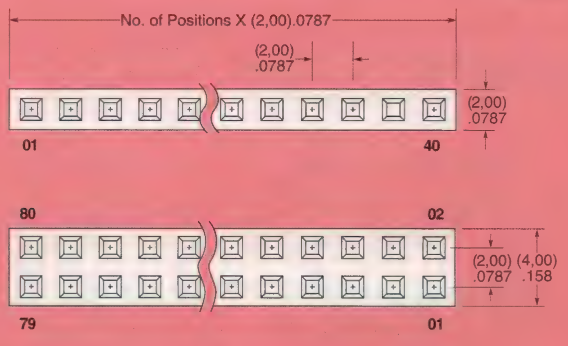
POLARIZING KEY

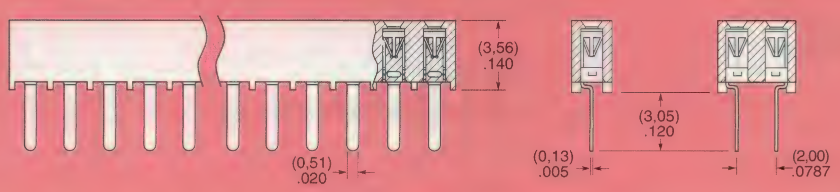
Specify PK–01–07 for polarizing key. Also polarizes TCSD Series IDC Cable.

HIGH SPEED INTERCONNECT

Mated with TMM(H)
Impedance:
50Ω average @ 100 MHz
(system @ 50Ω)
Propagation Delay:
61pS @ 100pS
Cross Talk:
-22 dB G/S/S/G @ 1 GHz

SMM	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 thru 40				–S =30µ" (0,76µm) Gold contact 150µ" (3,81µm) Tin tail		–S = Single Row –D = Double Row		–"XX" = Polarized Position





(2,00mm) .0787"

Due to technical progress, all designs, specifications and components are subject to change without notice.

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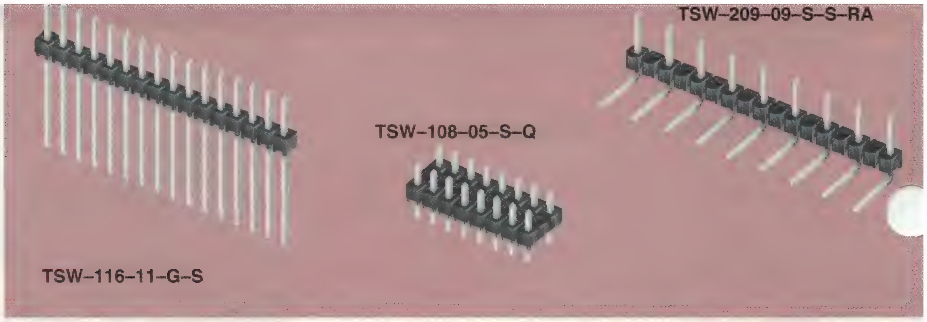
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

SMT Page 120

.025" SQ TERMINAL STRIPS TSW SERIES

Mates with:
SSW, SSQ, ESW, ESQ, BCS, BSW, IDSD, IDSS, CES, SLW

Precision Drawn Terminal Strips

Samtec terminal strips are precision drawn Phosphor Bronze wire for a high quality low cost .025" square post. Additional styles are shown on the following pages. Samtec prides itself on being a full line supplier of square post products. If you don't see what you need in this catalog please give us a call and we'll help you locate it.

Specifications: TSW

Insulator Material: Black Glass Filled Polyester
Terminal Material: Phosphor Bronze
Operating Temp Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Plating: Au or Sn over 50µ" (1,27µm) Ni

CURRENT RATING	
AMBIENT TEMPERATURE	TSW mated with SSW
20°C	7A
40°C	6A
60°C	4A
80°C	3A

Specifications: HTSW

Same as TSW except:
Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 30 to 60 seconds

Note: Some lengths, styles and options are non-standard, non-returnable.

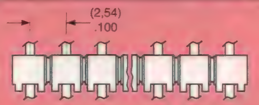
(2,54mm) .100"

TYPE STRIP – PIN CENTERS – NO. PINS PER ROW –

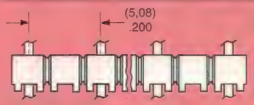
TSW = Standard Strip

HTSW = Hi-Temp Strip

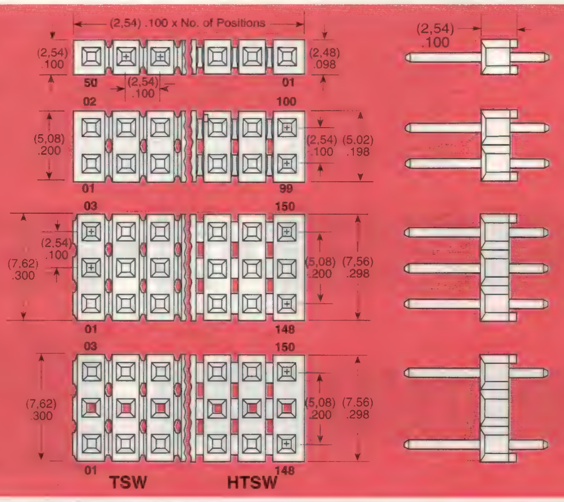
–1 = .100" (2,54mm) Centers, All Positions Filled



–2 = .200" (5,08 mm) Centers, Every Other Position Filled



Straight Pin Versions

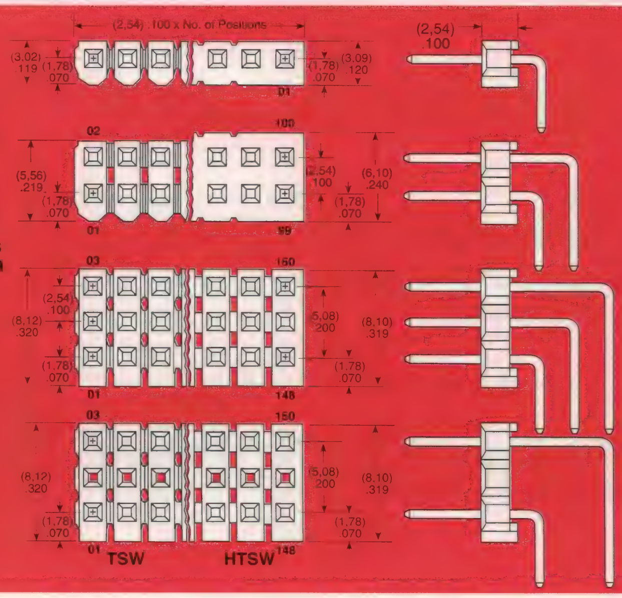


–S
–D
–T
–Q

01 thru 50 = .100" (2,54mm) Center Version

Right Angle Versions

HTSW –S & –D = 36 positions maximum



–S
–D
–T
–Q

02 thru 25 = .200"(5,08mm) Center Version

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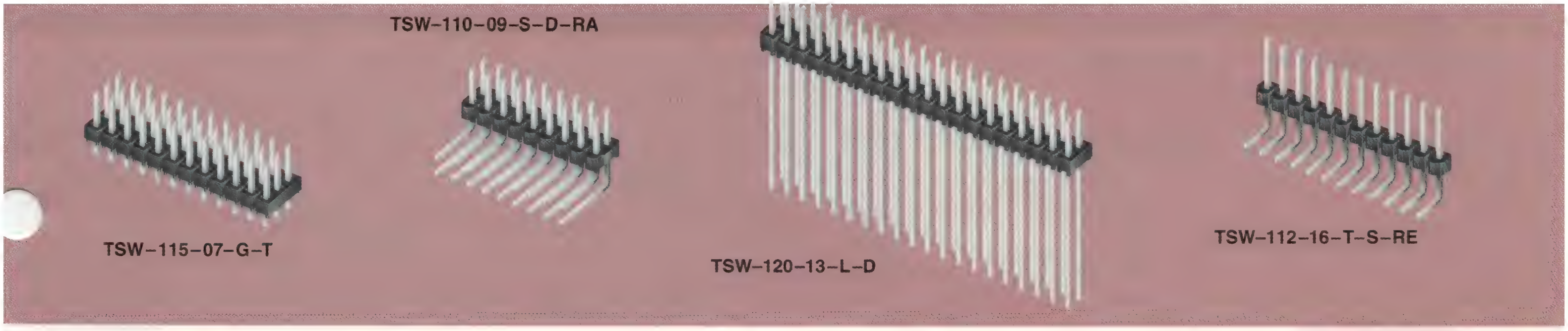


- LEAD STYLE - PLATING OPTION - ROW OPTION - OTHER OPTIONS

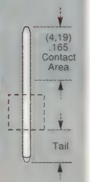
PLATING OPTION

–G
= 10µ" (0,25µm) Gold on contact area, Gold flash on balance

–L
= 10µ" (0,25µm) Gold on contact area, 200µ" (5,08µm) Tin on tail (Style -06 N/A)

–S
= 30µ" (0,76µm) Gold on contact area, 200µ" (5,08µm) Tin on tail (Style -06 N/A)

–T
= 200µ" (5,08µm) Tin



ROW OPTION

–S = Single Row

–D = Double Row

–T = Triple Row

–Q = Double Row (5,08mm) .200" row space

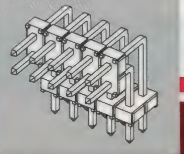
OTHER OPTIONS

–RA or –RE = Right Angle

–LA = –RA Option with –LL Option

ALSO AVAILABLE

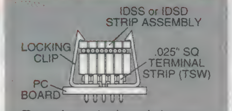
Elevated Right Angle option. Call Samtec.



–LL = Locking Lead

Two leads per strip crimped in opposite directions on or near centerline. See charts for available styles. N/A with single row 1 or 2 positions and double row 1 position. Recommended hole size (1,02mm ± 0,03mm) .040" ± .001"

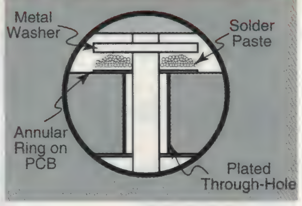
–LC = Locking Clip (Styles –08 thru –13 & –22 only)



Requires 4 pin minimum (NA with -T,-Q,-RA or -RE)

–"XXX" = Polarized Position

–MW = Metal Washers on Solder Tails (HTSW straight pin lead styles –05, –06, –07, –08, –16, –17, –18, –22, –23, –24 & –25 only) (02 to 30 pins/row only)



Straight Pin Versions

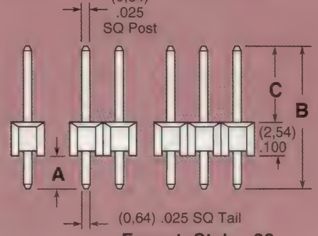
(Specify "LEAD STYLE" from chart)

	STYLE	A	B	C
*	–05	(3,30) .130	(8,51) .335	(2,67) .105
*	–06	(2,41) .095	(7,62) .300	(2,67) .105
*	–07	(2,54) .100	(10,92) .430	
*	–08	(5,08) .200	(13,46) .530	
	–09	(10,16) .400	(18,54) .730	
	–10	(12,70) .500	(21,08) .830	(5,84) .230
	–11	(15,24) .600	(23,62) .930	
	–12	(17,78) .700	(26,16) 1.030	
	–13	(22,86) .900	(31,24) 1.230	
*	–14	(2,79) .110	(13,46) .530	(8,13) .320
*	–15		(18,54) .730	(13,21) .520
*	–16	(7,87) .310		(8,13) .320
*	–17	(2,79) .110	(21,08) .830	(15,74) .620

	STYLE	A	B	C
*	–18		(23,62) .930	(18,29) .720
*	–19	(2,79) .110	(26,16) 1.030	(20,83) .820
*	–20		(31,24) 1.230	(25,91) 1.020
*	–21		(36,32) 1.430	(30,99) 1.220
*	–22	(7,62) .300	(16,00) .630	(5,84) .230
*	–23	(2,92) .115	(11,30) .445	
*	–24		(12,15) .480	(6,73) .265
*	–25	(5,33) .210	(16,00) .630	(8,13) .320
	–26	(3,20) .126	(11,58) .456	
	–27	(25,40) 1.000	(33,78) 1.330	(5,84) .230
	–28	(20,32) .800	(28,70) 1.130	
	–29	(23,11) .910	(33,78) 1.330	(8,13) .320
	–30	(18,03) .710	(28,70) 1.130	

*Available with –LL (Locking Lead) Option

Specify -07 for best mate with IDXX Series IDC Cable



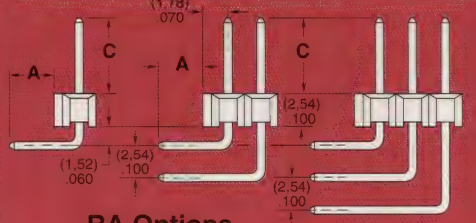
Except: Style –26 (0,46) .018 DIA Tail

Right Angle Versions

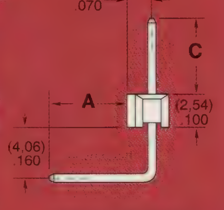
(Specify "LEAD STYLE" from chart)

	–RA LEAD STYLE	SINGLE (–S) A	SINGLE (–S) C	DOUBLE (–D) A	TRIPLE (–T & –Q) A
*	–08	(2,29) .090		(2,29) .090	(2,29) .090
*	–09	(7,37) .290		(7,37) .290	(7,37) .290
	–10	(9,91) .390	(5,84) .230	(9,91) .390	(9,91) .390
	–11	(12,45) .490		(12,45) .490	(12,45) .490
	–12	(14,99) .590		(14,99) .590	(14,99) .590
	–13	(20,07) .790		(20,07) .790	N/A
*	–16	(5,08) .200	(8,13) .320	(5,08) .200	(5,08) .200
	–21	(25,15) .990	(5,84) .230	N/A	N/A
*	–22	(4,83) .190		(4,83) .190	(4,83) .190
*	–25	(2,54) .100	(8,13) .320	(2,54) .100	(2,54) .100
	–27	(22,61) .890	(5,84) .230	N/A	
	–28	(17,53) .690		(17,53) .690	N/A
	–29	(20,32) .800	(8,13) .320	N/A	
	–30	(15,24) .600		(15,24) .600	

– RE LEAD STYLE	SINGLE A	C
–09	(4,83) .190	
–10	(7,37) .290	
–11	(9,91) .390	(5,84) .230
–12	(12,45) .490	
–13	(17,53) .690	
–16	(2,54) .100	(8,13) .320
–21	(22,61) .890	
–22	(2,29) .090	(5,84) .230
–27	(20,07) .790	
–28	(14,99) .590	



–RA Options

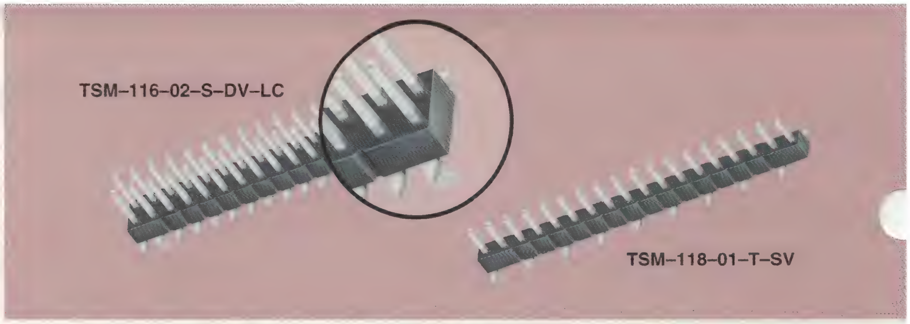


–RE Options

(2,54mm) .100"

samtec

POPULAR CONNECTORS Ship Next DAY



Surface **SMT** Mount

.025" SQ TERMINAL STRIPS TSM SERIES

Mates with:
SSW, SSQ, SSM, BSW, ESW, ESQ, CLH, BCS, IDSS, IDSD

Features:

- Single or double row
- Vertical or horizontal pin orientation
- Standard or extra length post height
- Alignment pins
- Locking clips
- Pick & Place Pads
- Polarization option

Specifications:

TSM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over
50µ" (1,27µm) Ni
SMT Lead Coplanarity:
(0,15mm) .006" max

CURRENT RATING		
AMBIENT TEMP	TSM mated with	
	CLH	SSW
20°C	3.2A	7A
40°C	2.8A	6A
60°C	2.3A	4A
80°C	1.6A	3A

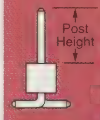
(2,54mm) .100"

Note: Some lengths, styles and options are non-standard, non-returnable.

TSM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION –

02 thru 36

LEAD STYLE:



- **–01** = .230" (5,84mm) Post Height (Mates with SSW, BCS, SSM, IDSS, IDSD)
- **–02** = .320" (8,13mm) Post Height (Mates with SSM -DH)
- **–03** = .420" (10,67mm) Post Height (For Bottom Mount & Pass Thru)
- **–04** = .120" (3,05mm) Post Height (Mates with SLW, CES, CLH)

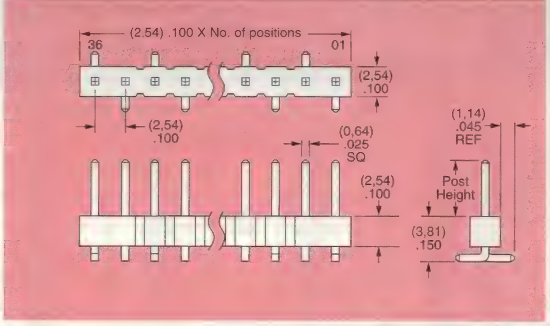
PLATING OPTION:

- **–S** = 30µ" (0,76µm) Gold on post, 200µ" (5,08µm) Tin on tail
- **–L** = 10µ" (0,25µm) Gold on post, 200µ" (5,08µm) Tin on tail
- **–T** = 200µ" (5,08µm) Tin

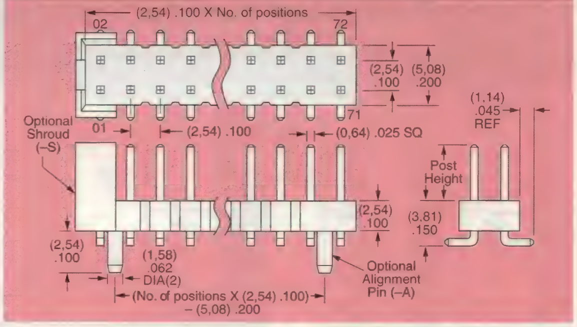
Edge Mount available. Call Samtec.

ROW OPTION:

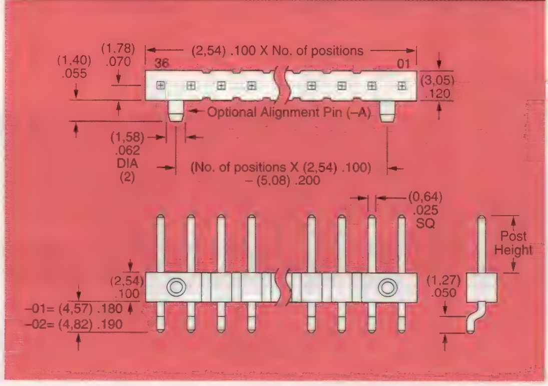
–SV
= Single Row Vertical Pin



–DV
= Double Row Vertical Pin

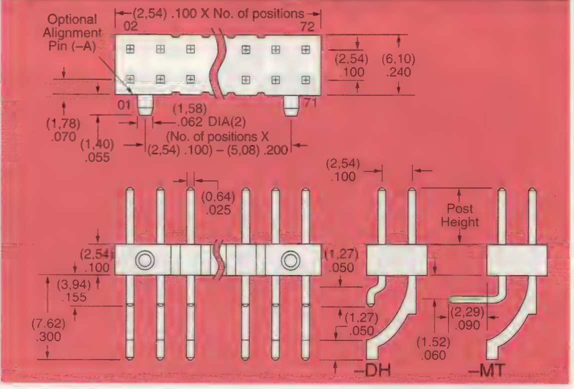


–SH
= Single Row Horizontal Pin



–DH
= Double Row Horizontal Pin (Style –01 or –02 only)

–MT
= Mixed Technology Pin (Style –01 only)



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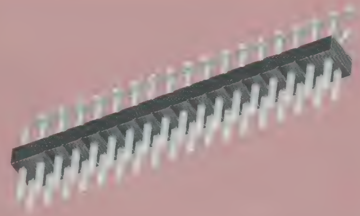
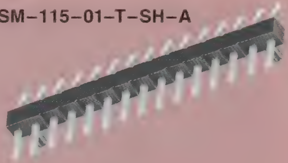
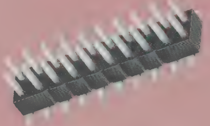
SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 SAMTEC JAPAN • Tel: 81-424-42-8318 • Fax: 81-424-42-8319



TSM–118–01–L–DH



TSM–115–01–T–SH–A



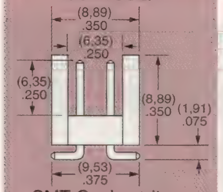
TSM–110–01–T–DV

COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

SHROUD OPTION

–S
= Shroud option
(–DV & Style –01 only)
(5 pins/row min.)

Mates only with SSW/SSQ



SMT Coplanarity = (0,20mm) .008" max

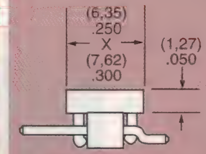
OTHER OPTIONS

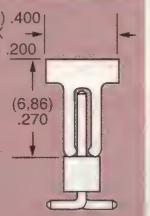
–LC
= Locking Clip
(Not available with –TV or –TM)

–A
= Alignment Pin
Metal or plastic at Samtec discretion
(N/A with –TV or –TM. 3 pos. min)

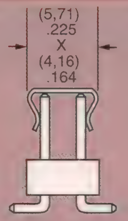
–"XXX"
= Polarized Position

–P
= Plastic Pick & Place Pad
(4 positions minimum)





–M
= Metal Pick & Place Pad
(4 positions minimum)
Styles –01 & –04 only

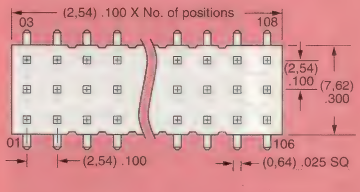


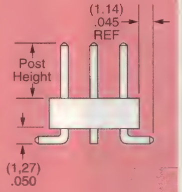
–TR
= Tape & Reel Packaging
(04-22 positions for –SV)
(04-28 positions for –DV)
Not available with –MT

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

–TV
= Triple Row Vertical Surface Mount (Style –01 only)

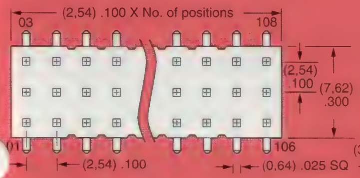
02 thru 30 positions only

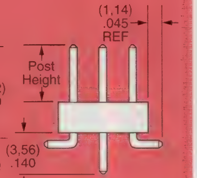




–TM
= Triple Row Vertical Mixed Technology
(Style –01 only)

02 thru 30 positions only

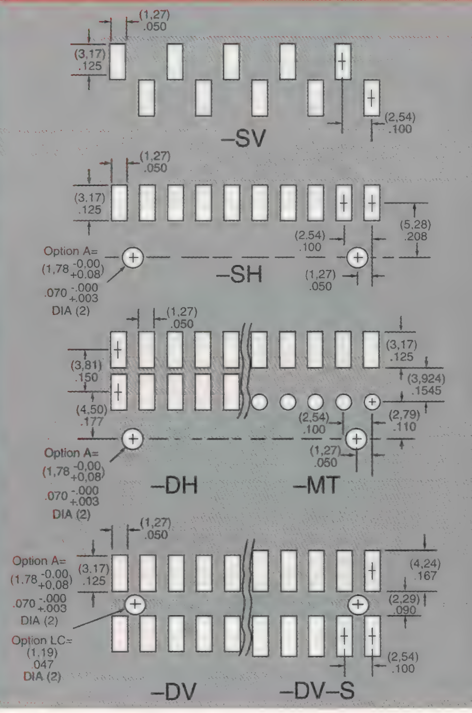




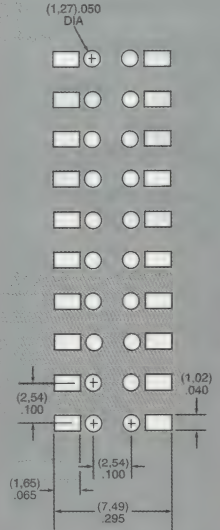
APPLICATION SPECIFIC OPTIONS

Edge Mount, Locking Clips for –SV, molded Pick-and-Place Pads and Shrouds for –DH, and plastic Pick-and-Place Pads for –DV available. Call Samtec.

SUGGESTED PCB LAYOUTS
(Your specific layout may vary)

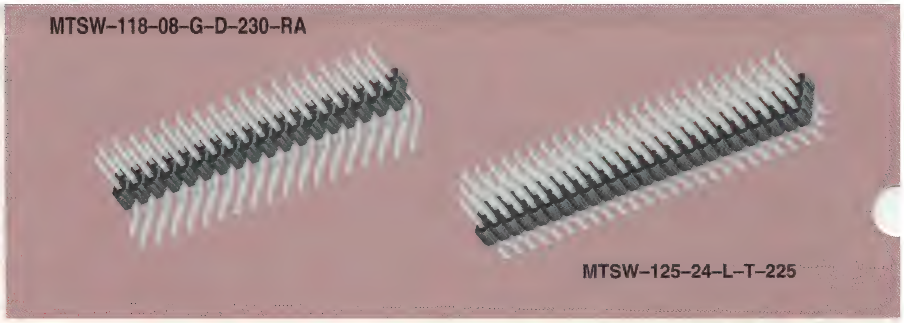


Suggested Layout for SSM Series (Pass-Through Application)



(2,54mm) .100"

samtec



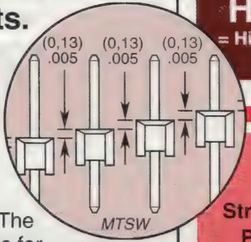
POPULAR CONNECTORS Ship Next DAY

Through T/H Hole

MODIFIED .025" SQ TERMINAL

Mates with: SSW, SSQ, ESW, ESQ, BCS, BSW, IDSS, IDSD, CES, SLW

Modified .025" strips permit custom post heights.



Samtec's MTSW offers the greatest product flexibility in the industry. The "M" stands for Modified. You tell us the post height you need and we'll deliver it.

Specifications: MTSW

Insulator Material: Black Glass Filled Polyester
Terminal Material: Phosphor Bronze
Current Rating: 3 amp continuous
Operating Temp Range: -65°C to +125°C with Gold, -65°C to +105°C with Tin
Plating: Au or Sn over 50µ" (1,27µm) Ni

Specifications: HMTSW

Same as MTSW except:
Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 60 seconds

Note: These Series are non-standard, non-returnable.

(2,54mm) .100"

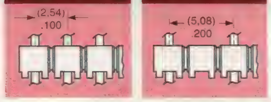
TYPE STRIP – PIN PITCH – NO. PINS PER ROW – LEAD STYLE –

TYPE STRIP

- **MTSW** = Modified Strip
- **HMTSW** = Hi-Temp Modified Strip

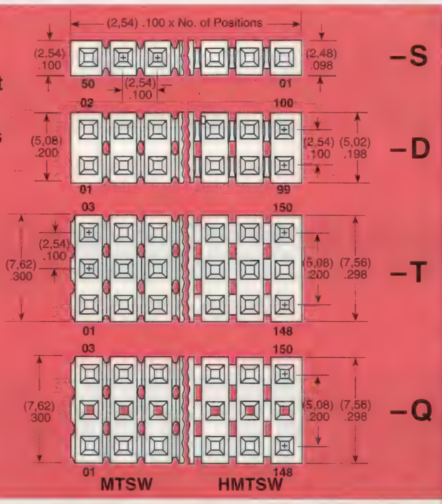
PIN PITCH

- **–1** = (2,54mm) .100" Pitch
- **–2** = (5,08mm) .200" Pitch



NO. PINS PER ROW

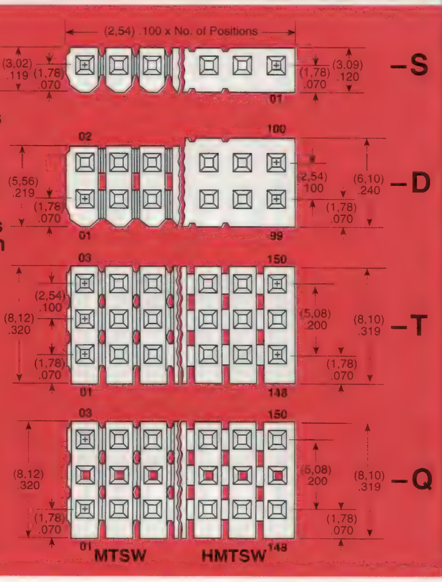
Straight Pin Versions



01 thru 50 = .100" (2,54mm) Center Version

Right Angle Versions

HMTSW –S & –D = 36 positions maximum

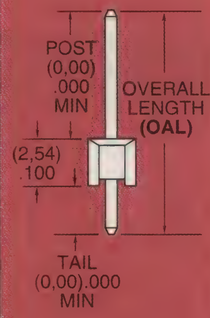


02 thru 25 = .200" (5,08mm) Center Version

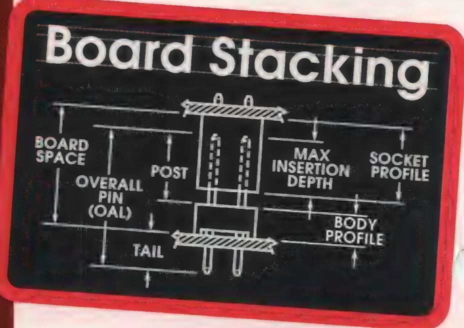
LEAD STYLE

SPECIFY "LEAD STYLE" FROM CHART

LEAD STYLE	OAL
– 06	(7,62) .300
– 07	(10,92) .430
– 08	(13,46) .530
– 09	(18,54) .730
– 10	(21,08) .830
– 11	(23,62) .930
– 12	(26,16) 1.030
– 13	(31,24) 1.230
– 21	(36,32) 1.430
– 22	(16,00) .630
– 23	(11,30) .445
– 24	(12,19) .480
– 27	(33,78) 1.330
– 28	(28,70) 1.130



Board Stacking



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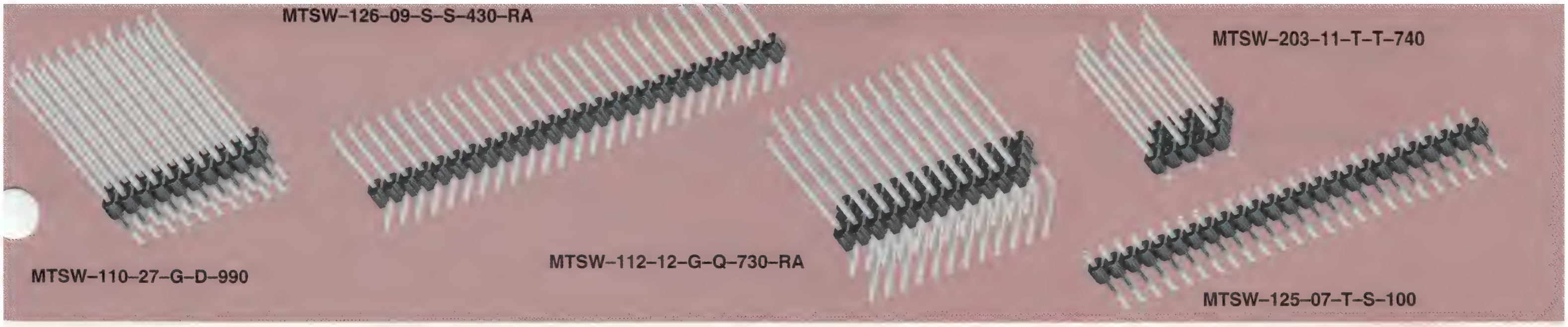


STR IPS MTSW & HMTSW SERIES

– PLATING OPTION – ROW OPTION – POST HEIGHT – OTHER OPTION – POLARIZED OPTION

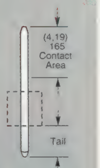
PLATING OPTION

–G = 10µ" (0,25µm) Gold on contact area, Gold flash on balance

–L = 10µ" (0,25µm) Gold on contact area, 200µ" (5,08µm) Tin on tail (Style –06 N/A)

–S = 30µ" (0,76µm) Gold on contact area, 200µ" (5,08µm) Tin on tail (Style –06 N/A)

–T = 200µ" (5,08µm) Tin



ROW OPTION

–S = Single

–D = Double

–T = Triple

–Q = Double Row .200" (5,08mm) row space

OTHER OPTION

–RA or **–RE** =Right Angle

–LL = Locking Lead (N/A with –RE N/A in single row 1 or 2 positions. Available on tails from (2,29) .090" to (10,16) .400" only)

Two leads per strip crimped in opposite directions on or near centerline. See TSW for availability.

–LA = –RA Option with –LL Option (Maximum "C" = (13,46) .530

POLARIZED OPTION

–"XXX" = Polarized (Specify 'XXX' as position number)

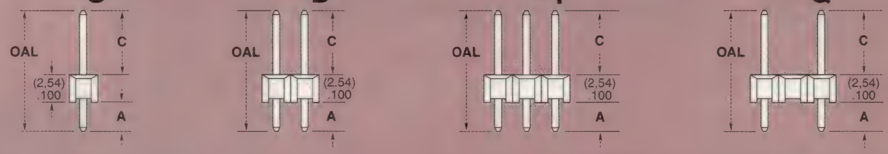
POST HEIGHT

COST SAVING SOLUTIONS FLEX STACK SEE PAGE 7

–"XXXX" = "C" Dimension (Specify post height in INCHES – .005" (0,13mm) increments)

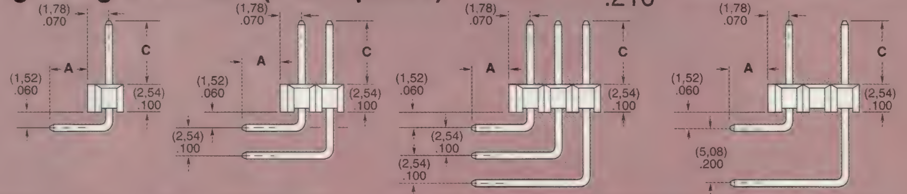
FOR A = (2,29) .090				
LEAD STYLE	OAL	C MAXIMUM STRAIGHT	C MAXIMUM w/RA	C MAXIMUM w/RE
– 06	(7,62) .300	(2,79) .110	N/A	N/A
– 07	(10,92) .430	(6,10) .240	(3,30) .130	N/A
– 08	(13,46) .530	(8,64) .340	(5,84) .230	(3,30) .130
– 09	(18,54) .730	(13,72) .540	(10,92) .430	(8,38) .330
– 10	(21,08) .830	(16,26) .640	(13,46) .530	(10,92) .430
– 11	(23,62) .930	(18,80) .740	(16,00) .630	(13,46) .530
– 12	(26,16) 1.030	(21,34) .840	(18,54) .730	(16,00) .630
– 13	(31,24) 1.230	(26,42) 1.040	(23,62) .930	(21,08) .830
– 21	(36,32) 1.430	(31,50) 1.240	(28,70) 1.130	(26,16) 1.030
– 22	(16,00) .630	(11,18) .440	(8,38) .330	(5,84) .230
– 23	(11,30) .445	(6,48) .255	(3,68) .145	N/A
– 24	(12,19) .480	(7,37) .290	(4,57) .180	
– 27	(33,78) 1.330	(28,96) 1.140	(26,16) 1.030	(23,62) .930
– 28	(28,70) 1.130	(23,88) .940	(21,08) .830	(18,54) .730

Straight Pin Versions A=OAL–C–(2,54) .100



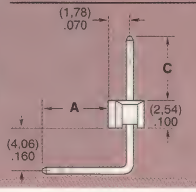
Right Angle Versions (–RA Options) A=OAL–C–(5,33) .210

Styles –21, –23, –24, –27 N/A with –D
Styles –13, –21, –23, –24, –27, –28 N/A with –T or –Q



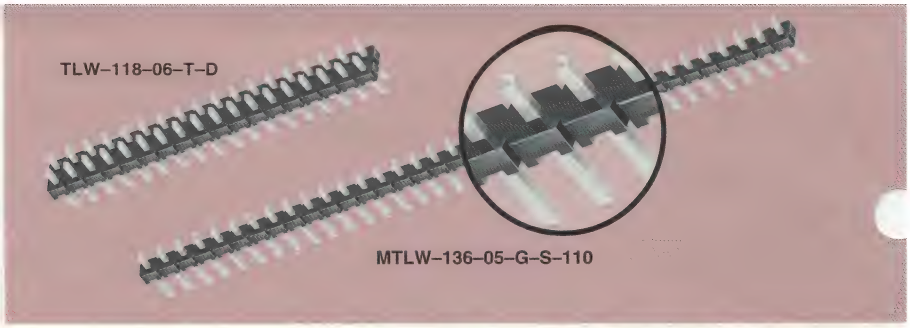
Right Angle Versions (–RE Options) Single Row Only

A=OAL–C–(7,87) .310



(2,54mm) .100"

samtec



POPULAR CONNECTORS Ship Next DAY

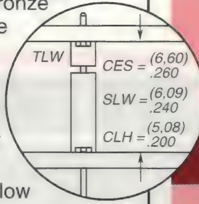
Through T/H Hole

LOW PROFILE HEADER TLW, MTLW SERIES

Mates with: BSW, CES, CLH, SLW

Features:

These headers provide the ultimate low profile .025" (0,64mm) square post board stacking system. The high quality Phosphor Bronze terminals are available with a standard short post height (TLW Series) for mating with low profile sockets, or the post height can be Modified (MTLW Series) to accommodate IDC assemblies and other applications.



Specifications: TLW, MTLW

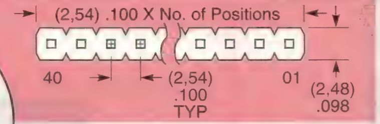
Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Current Rating: 3A
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Max Processing Temp: 230°C for 60 seconds
Plating: Au or Sn over 50µ" (1,27mm) Ni

Note: Some lengths, styles and options are non-standard, non-returnable. MTLW Series is non-standard, non-returnable.

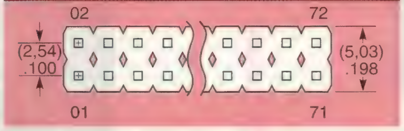
(2,54mm) .100"

TLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

01 thru 40 = Single Row

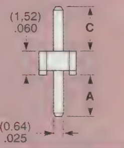


01 thru 36 = Double Row



LEAD STYLE

Specify "LEAD STYLE" from chart



LEAD STYLE	A	C
–05	(4,32) .170	(2,67) .105
–06	(3,43) .135	(2,67) .105

PLATING OPTION

–G = 10µ" (0,25µm) Gold on post, Gold flash on tail

–T = 200µ" (5,08µm) Tin

ROW OPTION

–S = Single Row

–D = Double Row

OTHER OPTION

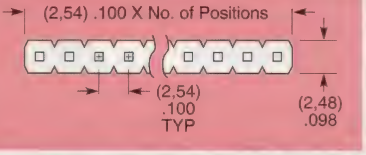
–"XX" =Polarized Position. Specify position for omitted pin.

–RA =Right Angle. Call for Specifications

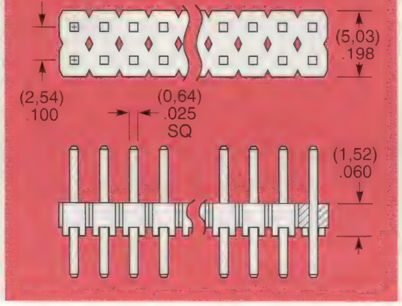
COST SAVING SOLUTIONS FLEX STACK
SEE PAGE 7

MTLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – POST HEIGHT

01 thru 40 = Single Row

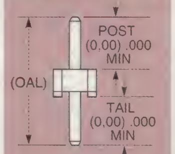


01 thru 36 = Double Row



LEAD STYLE

Specify "LEAD STYLE" from chart



LEAD STYLE	OAL
–05	(8,51) .335
–06	(7,62) .300
–07	(10,92) .430
–08	(13,46) .530
–09	(18,54) .730
–10	(21,08) .830
–22	(16,00) .630
–23	(11,30) .445
–24	(12,19) .480

PLATING OPTION

–G = 10µ" (0,25µm) Gold on post, Gold flash on tail

–T = 200µ" (5,08µm) Tin

–S = 30µ" (0,76µm) Gold on post, 200µ" (5,08µm) Tin on tail (Styles -05 & -06 N/A)

–L = 10µ" (0,25µm) Gold on post, 200µ" (5,08µm) Tin on tail (Styles -05 & -06 N/A)

ROW OPTION

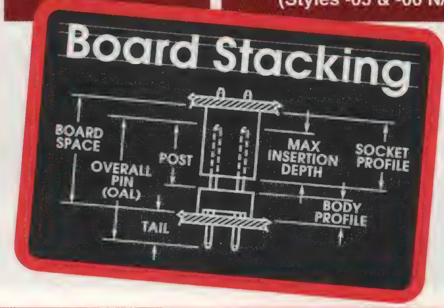
–S = Single Row

–D = Double Row

POST HEIGHT

–"XXX" =Post Height Dimension (In inches)

Board Stacking



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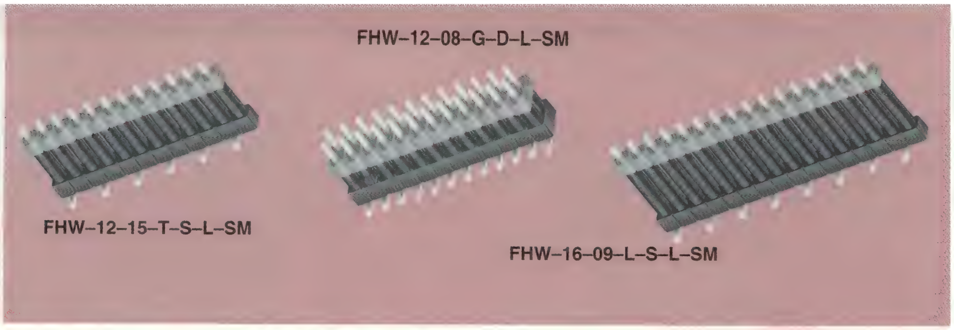


POPULAR CONNECTORS Ship in 3 DAYS

LOW NOISE SPACERS FHW SERIES

Mates with: SSW, SSQ, ESW, ESQ, CLH, CES, SLW, BCS, SSM

For prototype quantities only. Call Samtec for production volume Ferrite shielding.

Features:

- Low or high impedance ceramic insulators on each pin
- Wide range of board spacing available

Specifications: FHW

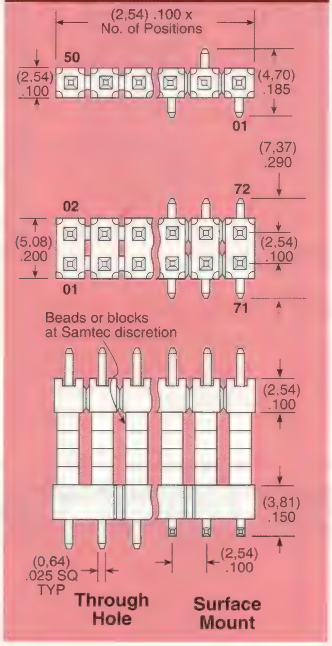
Insulator Material: Lower Body Black LCP, Upper Body Natural LCP and Gray Ferrite
Terminal Material: Phosphor Bronze
Current Rating: 3A @ 80°C ambient
Max Processing Temp: 230°C for 60 seconds
Operating Temp Range: -65°C to 105°C with Tin; -65°C to 125°C with Gold
Plating: Au or Sn over 50µ" (1,27µm) Ni
SMT Lead Coplanarity: (0,15mm) .006" max

Note: This Series is non-standard, non-returnable.

FHW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – FREQUENCY OPTION – TAIL OPTION

NO. PINS PER ROW

- **02 thru 50** =Through Hole
- **02 thru 36** =Surface Mount



LEAD STYLE

Specify LEAD STYLE from chart

PLATING OPTION

- **–G** = 10µ" (0,25µm) Gold on contact area of longer tail Gold flash on balance
- **–T** = 200µ" (5,08µm) Tin
- **–L** = 10µ" (0,25µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail
- **–S** = 30µ" (0,76µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail

ROW OPTION

- **–S** =Single Row
- **–D** =Double Row

FREQUENCY OPTION

- **–L** = Low Frequency (EMI suppression < 30 MHz)
- **–H** = High Frequency (EMI suppression Range 30 to 250 MHz)

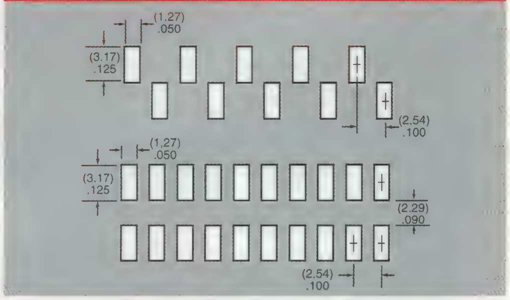
TAIL OPTION

- **–SM** =Surface Mount

APPLICATION SPECIFIC OPTION

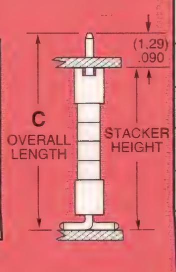
Alignment pin option available. (Requires –SM) Call Samtec.

SUGGESTED PCB LAYOUTS
(Your specific layout may vary)

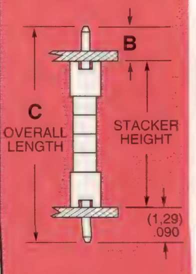


Specify LEAD STYLE from chart

SURFACE MOUNT						
LEAD STYLE	C	STACKER HEIGHT	IMPEDANCE FREQ	10MHZ	25MHZ	100MHZ
-08	(11,68) .460	(9,40) .370	LOW HIGH	14Ω min —	24Ω ±20% 14Ω min	— 44Ω ±20%
-09	(16,76) .660	(14,48) .570	LOW HIGH	35Ω min —	60Ω ±20% 35Ω min	— 110Ω ±20%
-15	(14,22) .560	(11,94) .470	LOW HIGH	21Ω min —	36Ω ±20% 21Ω min	— 66Ω ±20%



THROUGH-HOLE							
LEAD STYLE	C	B	STACKER HEIGHT	IMPEDANCE FREQ	10MHZ	25MHZ	100MHZ
-07	(10,92) .430	(2,03) .080	(6,60) .260	LOW HIGH	7Ω min —	12Ω ±20% 7Ω min	— 22Ω ±20%
-08	(13,46) .530	(3,05) .120	(8,13) .320	LOW HIGH	14Ω min —	24Ω ±20% 14Ω min	— 44Ω ±20%
-09	(18,54) .730	(2,03) .080	(14,22) .560	LOW HIGH	42Ω min —	72Ω ±20% 42Ω min	— 132Ω ±20%
-10	(21,08) .830	(3,05) .120	(15,75) .620	LOW HIGH	49Ω min —	84Ω ±20% 49Ω min	— 154Ω ±20%
-15	(16,00) .630	(5,59) .220	(8,13) .320	LOW HIGH	14Ω min —	24Ω ±20% 14Ω min	— 44Ω ±20%
-17	(12,19) .480	(3,30) .130	(6,60) .260	LOW HIGH	7Ω min —	12Ω ±20% 7Ω min	— 22Ω ±20%



(2,54mm) .100"

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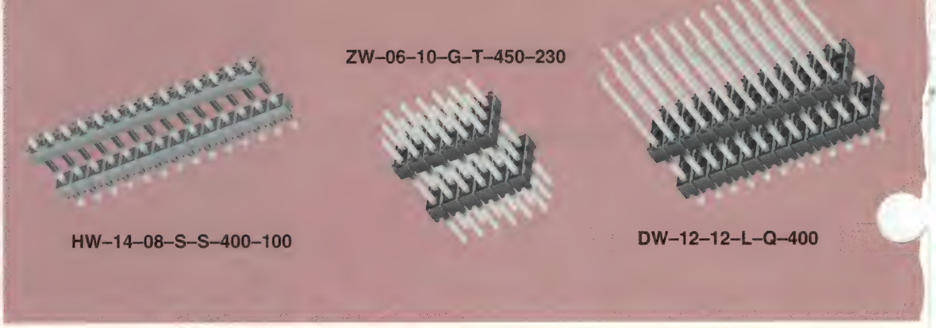
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole SMT Page 128

BOARD STACKER DW, EW, ZW & HW SERIES

Mates with:
SSW, SSQ, ESW, ESQ, CLH, CES, SLW, BSW, BCS, SSM, IDSS, IDSD

Features:

- Highly versatile board stacking interconnect
- Choice of standard or custom tail lengths
- DW for standard board stacking
- EW for mating with connector
- ZW or HW for custom tail length

Specifications: DW, EW, ZW

Insulator Material:
Black Glass Filled Polyester
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Plating:
Au or Sn over
50µ" (1,27µm) Ni

Specifications: HW

Same as ZW except:
Insulator Material:
Natural Liquid Crystal Polymer
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
.006" (0,15mm) max

CURRENT RATING	
AMBIENT TEMPERATURE	DW mated with CLH
20°C	2.2A
40°C	2A
60°C	1.8A
80°C	1.2A

Note: These Series are non-standard, non-returnable.

(2,54mm) .100"

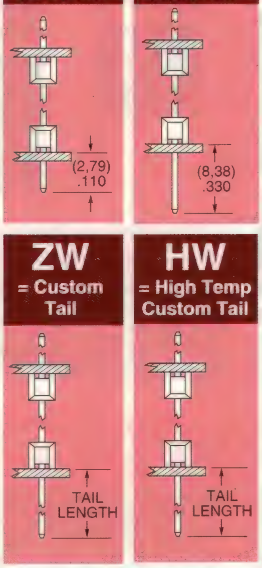
TYPE STRIP – NO. PINS PER ROW – LEAD STYLE –

DW = .110" (2,79) Tail

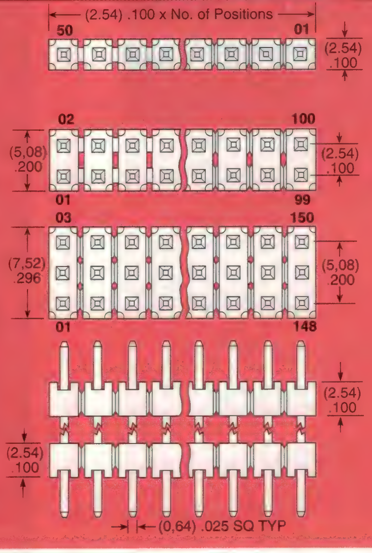
EW = .330" (8,38) Tail

ZW = Custom Tail

HW = High Temp Custom Tail



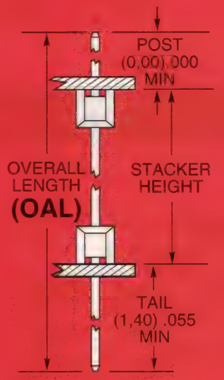
01 thru 50



–Q* = Same as -T except middle row of pins missing.

Specify LEAD STYLE from chart

LEAD STYLE	OAL
–07	(10,92) .430
–08	(13,46) .530
–09	(18,54) .730
–10	(21,08) .830
–11	(23,62) .930
–12	(26,16) 1.030
–13	(31,24) 1.230
–14	(36,32) 1.430
–15	(16,00) .630
–16	(11,30) .445
–17	(12,19) .480
–19	(33,78) 1.330
–20	(28,70) 1.130



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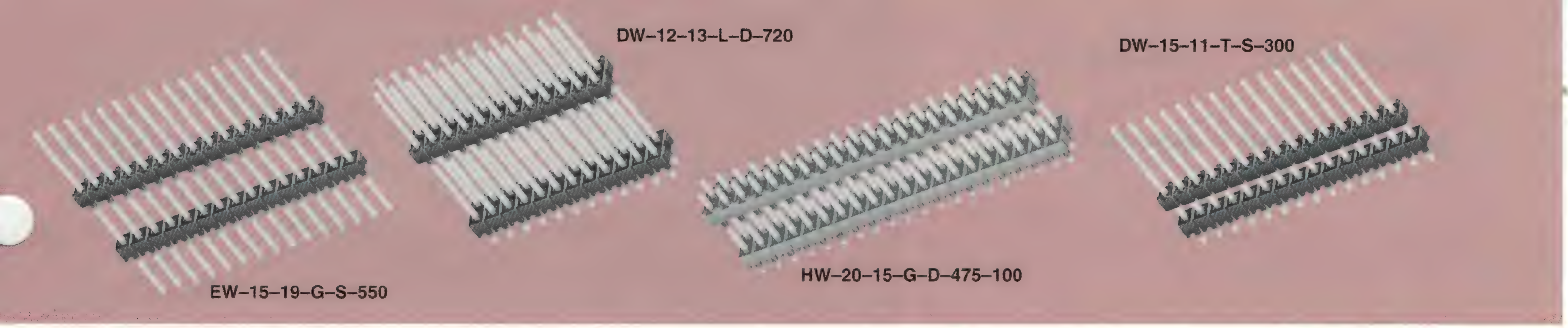
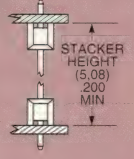
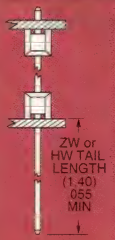


COST SAVING SOLUTIONS FLEX MOLD
SEE PAGE 8

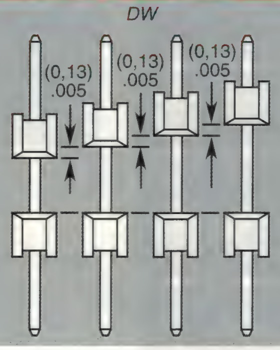
PLATING OPTION	ROW OPTION	STACKER HEIGHT	TAIL OPTION	OTHER OPTIONS
–G =10µ" (0,25µm) Gold on contact area of longer tail Gold flash on balance	**–S** = Single Row	**–"XXX"** = Stacker Height	**–"XXX"** = ZW or HW Tail Length	**"XXX"** = Polarized Specify omitted pin position
–T =200µ" (5,08µm) Tin	**–D** = Double Row		**–LL** = Locking Lead (Shortest dimension between the tail and the post is the end that will be crimped. Available on tails from (2,29) .090" to (10,16) .400" only.)	
–L =10µ" (0,25µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail	**–T** = Triple Row			
–S =30µ" (0,76µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail	**–Q** =Double Row .200" (5,08mm) row space			

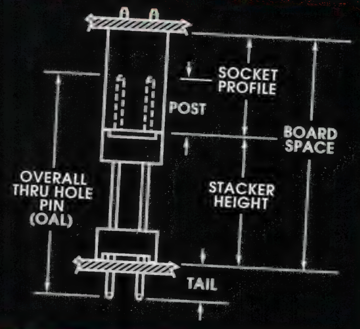




COST SAVING SOLUTIONS FLEX STACK
SEE PAGE 7

APPLICATIONS





SOCKET SELECTOR

Technology	Through-Hole							Pass Through		
Socket Series	CLH-TE	SLW	CES	BCS	SSW/SSQ	ESW/ESQ-23	ESW/ESQ-44	CLH-PE	BCS-PE	BSW
Socket Profile	(3,56) 0.140	(4,57) 0.180	(5,08) 0.200	(7,37) 0.290	(8,51) 0.335	(13.59) 0.535	(18,67) 0.735	(3,68) 0.145	(7,37) 0.290	N/A
Insertion Depth	(2,67) .105 to (3,56) .140	(2,16) .085 to (2,92) .115	(2,62) .103 to (4,06) .160	(4,34) .171 to (7,24) .285	(3,68) .145 to (6,35) .250	(3,68) .145 to (6,35) .250	((3,68) .145 to (6,35) .250	(2,67) .105 to (3,56) .140	(4,34) .171 to (7,37) .290	(3,68) .145 to (6,35) .250
Socket Type	TIGER CLAW CONTACT	TIGER BUY CONTACT			TIGER BUY CONTACT	TIGER BUY CONTACT	TIGER BUY CONTACT	TIGER CLAW CONTACT		TIGER BUY CONTACT

(2,54mm) .100"

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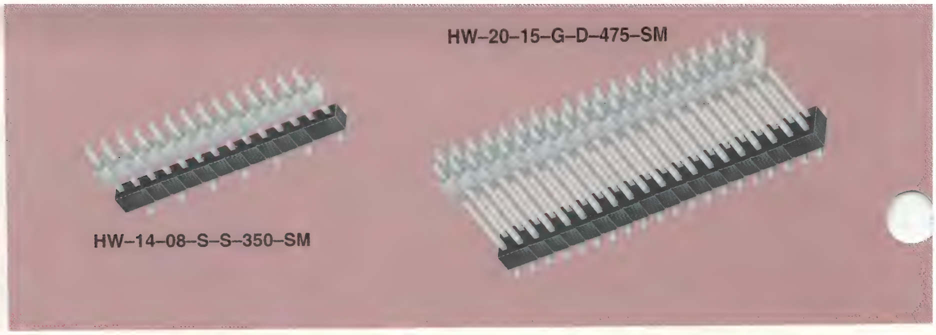
POPULAR CONNECTORS Ship Next DAY



Surface **SMT** Mount

T/H Page 126

BOARD STACKER HW SERIES

Mates with:
SSW, SSQ, ESW, ESQ, CLH, CES, SLW, BSW, BCS, SSM, IDSS, IDSD

Specifications: HW

Insulator Material:
Top: Natural LCP
Bottom: Black LCP
Terminal Material:
Phosphor Bronze
Current Rating:
3A continuous
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over
50µ" (1,27µm) Ni
SMT Lead Coplanarity:
(0,15mm) .006" max

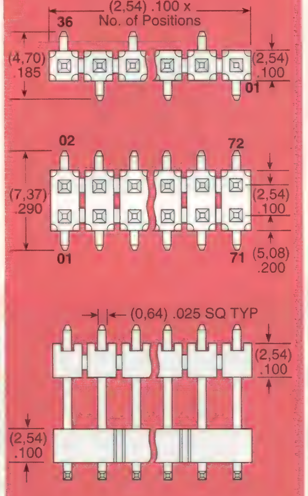
APPLICATION SPECIFIC OPTION

Locking Clip available with double row -SM. Call Samtec.

HW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – SM – OTHER OPTIONS

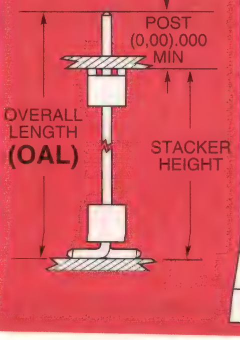
NO. PINS PER ROW

01 thru 36



LEAD STYLE

Specify LEAD STYLE from chart



LEAD STYLE	OAL (SMT)
–08	(11,81) .465
–09	(16,89) .665
–10	(19,43) .765
–11	(21,97) .865
–12	(24,51) .965
–15	(14,35) .565
–16	(9,65) .380
–17	(10,54) .415
–20	(27,05) 1.065

PLATING OPTION

–G
=10µ" (0,25µm) Gold on contact area of longer tail Gold flash on balance

–T
=200µ" (5,08µm) Tin

–L
=10µ" (0,25µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail

–S
=30µ" (0,76µm) Gold on contact area of longer tail 200µ" (5,08µm) Tin on tail

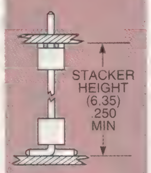
ROW OPTION

–S
=Single Row

–D
=Double Row

STACKER HEIGHT

–"XXX"
= Stacker Height



COST SAVING SOLUTIONS FLEX STACK

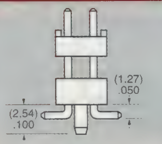
SEE PAGE 7

OTHER OPTIONS

COST SAVING SOLUTIONS FLEX MOLD

SEE PAGE 8

–A
= Alignment Pin

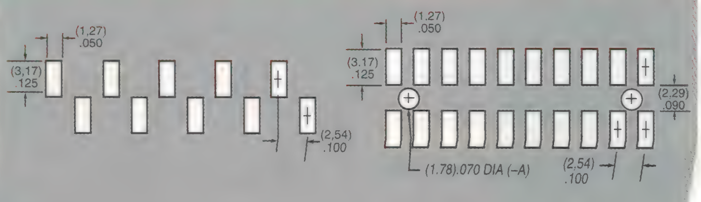


Double row only
(Metal or plastic at Samtec discretion)

"XX"
= Polarized

Specify omitted pin position

SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



(2,54mm) .100"

Note: These Series are non-standard, non-returnable.

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Due to technical progress, all designs, specifications and compo...

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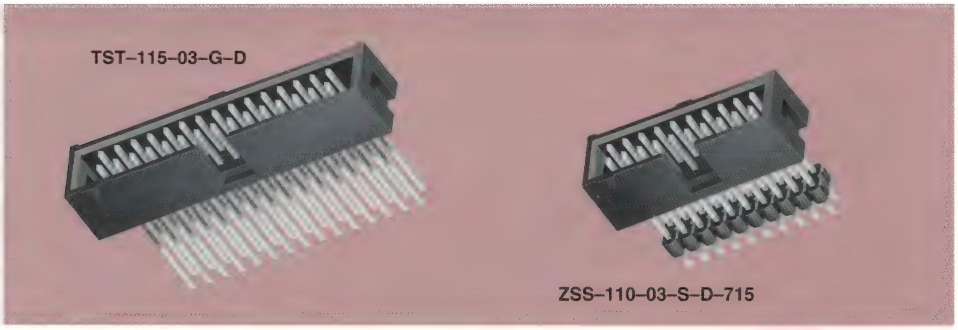
POPULAR CONNECTORS Ship in 3 DAYS



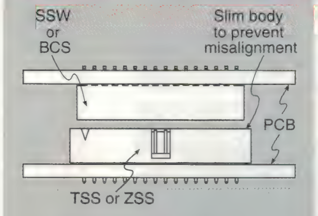
Through T/H Hole

SHROUDED HEADER TSS, TST, ZSS, ZST SERIES

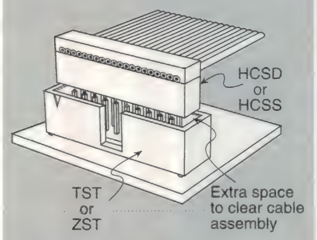
Mates with:
SSW, SSQ, SLW, ESW, ESQ, BCS, IDSD, IDSS, HCSD, HCSS

TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OTHER OPTION

APPLICATIONS



Board Stacking



Cable

TYPE STRIP

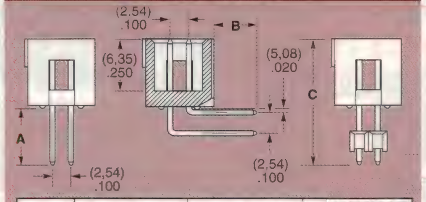
TSS =Top Shrouded Connector Strip

TST =Top Shrouded Cable Strip

ZSS =Elevated Connector Strip

ZST =Elevated Cable Strip

Specify "LEAD STYLE" from chart



LEAD STYLE	TSS/TST STRAIGHT TAIL LENGTH (A)	TSS/TST RIGHT ANGLE TAIL LENGTH (B)	ZSS/ZST OVERALL LENGTH (C)
–01	(2,92) .115	—	(16,00) .630
–02	(4,19).165	—	(18,54) .730
–03	(14,35) .565	—	(21,08) .830
–04	—	(3,30) .130	(23,62) .930
–05	—	(5,84) .230	(26,16) 1.030
–06	—	—	(28,70) 1.130
–07	—	—	(31,24) 1.230
–08	—	—	(33.78) 1.330
–09	—	—	(36,32) 1.430

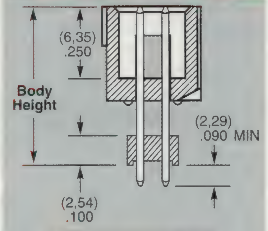
OTHER OPTION

– RA = Right Angle (TSS, TST only)

– LL = Locking Lead (Requires .090" (2,29mm) min tail)

– LA = –RA Option with –LL Option (TSS, TST only)

– "XXXX" = Body Height (ZSS, ZST only)

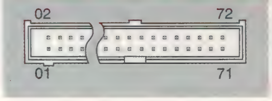


LEAD STYLE	MAX. BODY HEIGHT
–01	.540 (13,72)
–02	.640 (16,26)
–03	.740 (18,80)
–04	.840 (21,34)
–05	.940 (23,88)
–06	1.040 (26,42)
–07	1.140 (28,96)
–08	1.240 (31,50)
–09	1.340 (34,04)

For board stacking height add .085" (2,16mm) when mated with SSW series.

Example: ZST-1XX-01-X-X-465 mated with SSW = (13,97mm) .550" board space

–"XX" =Polarized Position



(2,54mm) .100"

Specifications: TSS, TST,

Insulator Material:
Black Glass Filled Polyester
Flamability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ min
Operating Temp Range:
-65°C to +125°Cwith Gold
-65°C to + 105°C with Tin
Withstanding Voltage:
1000 VRMS
Terminal Material:
Phosphor Bronze
Plating: Au or Sn over 50µ" (1,27µm) Ni
Current Rating: 3A

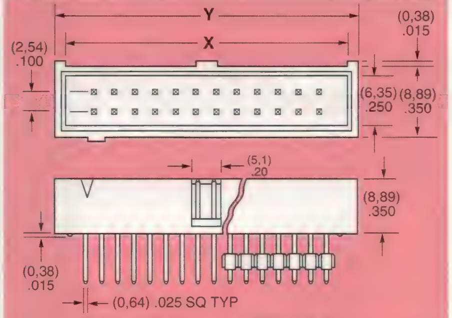
Specifications: ZSS, ZST

Same as TSS, TST

Note: Some lengths, styles and options are non-standard, non-returnable. ZSS, ZST are non-standard, non-returnable.

NO. PINS PER ROW

05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36
(Call Samtec for other sizes.)



TYPE STRIP	X	Y
TSS ZSS	(2,54) .100 X No. of Positions + (1,27) .050	(2,54) .100 X No. of Positions + (3,81).150
TST ZST	(2,54).100 X No. of Positions + (5,08).200	(2,54).100 X No. of Positions + (7,62) .300

PLATING OPTION

– G = 10µ" (0,25µm) Gold on contact area, Gold flash on balance

– T =200µ" (5,08µm) Tin

– L = 10µ" (0,25µm) Gold on contact area, 200µ" (5,08µm) Tin on tail

– S = 30µ" (0,76µm) Gold on contact area, 200µ" (5,08µm) Tin on tail

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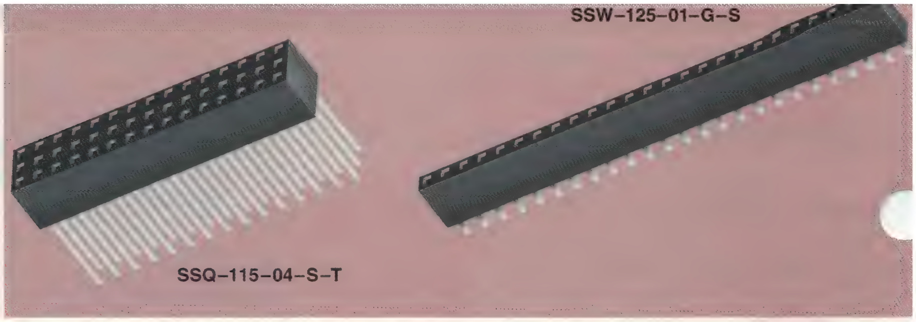
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

SMT Page 132

SOCKET STRIP SSW & SSQ SERIES

Mates With:
TSW, MTSW, FHW, MTLW, BST, LCW, EW, ZW, TSS, ZSS, TSM

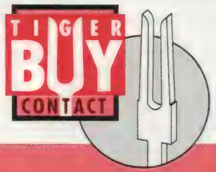
Specifications: SSW, SSQ

Insulator Material:
Black Liquid Crystal Polymer (-S & -D) or Black High Temperature Thermoplastic (-T)
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Plating:
Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,68 mm) .145" to (6,35 mm) .250"
Insertion Force:
(–S plating)
Standard= 6oz (1,67N) avg ((0,64mm) .025" SQ pin);
SSW Low Insertion Force= 3oz (0,83N) avg
SSQ Low Insertion Force= 3.3oz (0,92N) avg
Normal Force:
Standard= 125grams (4.4N)
Withdrawal Force:
(–S plating)
Standard= 5oz (1,39N) avg ((0,64mm) .025" SQ pin);
SSW Low Insertion Force= 2.6oz (0,72N) avg
SSQ Low Insertion Force= 2.9oz (0,81N) avg
Impedance:
50Ω (system @ 50Ω)
Propagation Delay:
76.0pS @ 100pS
Cross Talk:
-18.3 dB G/S/S/G @ 1.0 GHz
Max Cycles:
100 with 10µ" (0,25µm) Au

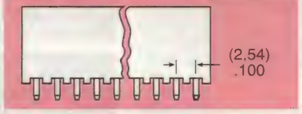
CURRENT RATING	
AMBIENT TEMPERATURE	SSW mated with TSW
20°C	5.5A
40°C	5A
60°C	4A
80°C	3A

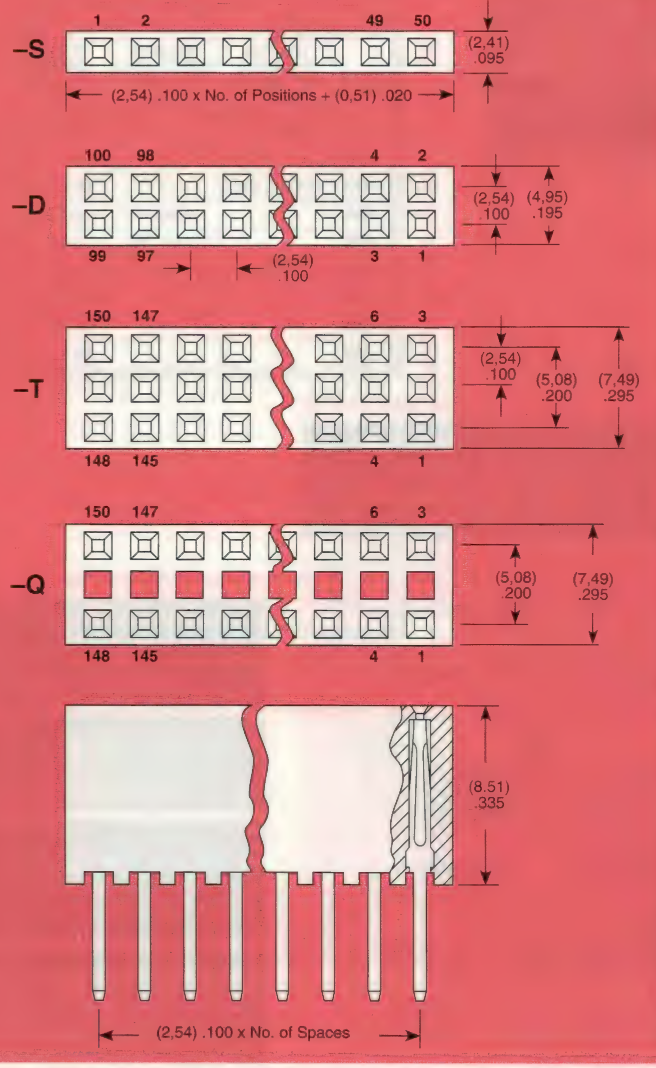
(2,54mm) .100"

Note:
Some lengths, styles and options are non-standard, non-returnable.



TYPE STRIP	–	PIN CENTERS	–	NO. PINS PER ROW	–
SSW = Solder Tail		–1 = (2,54mm) .100" Centers		01 thru 50	
SSQ = Square Tail					





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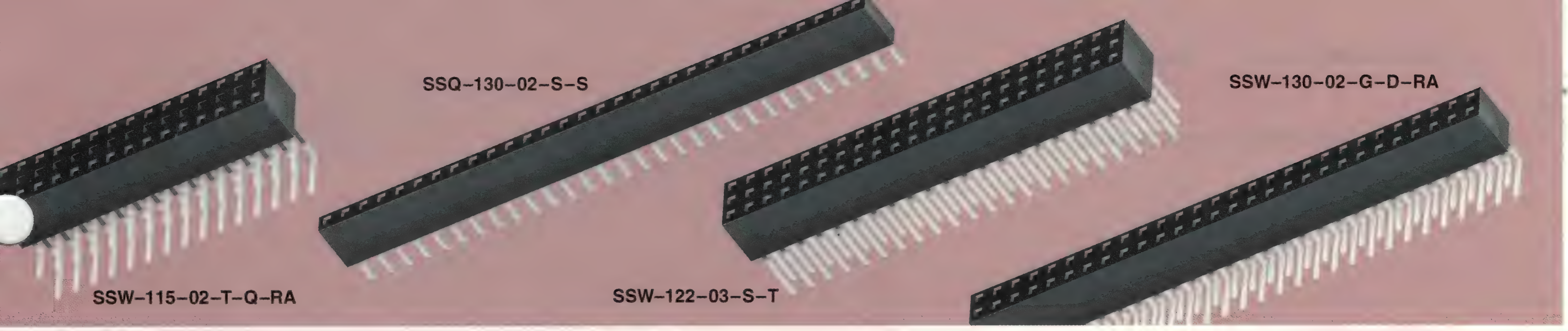


LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION	OTHER OPTION

PLATING OPTION

- **–G** = 20µ" (0,51µm) Gold on contact Gold flash on tail
- **–T** = 200µ" (5,08µm) Tin on contact and tail (Tin N/A on LIF contacts)
- **–S** = 30µ" (0,76µm) Gold on contact 200µ" (5,08µm) Tin tail

ROW OPTION

- **–S** = Single Row
- **–D** = Double Row
- **–T** = Triple Row
- **–Q** = Double Row .200" (5,08mm) row space (Outer rows filled only)

TAIL OPTION

–RA = Right Angle (Leave blank for straight pin version)

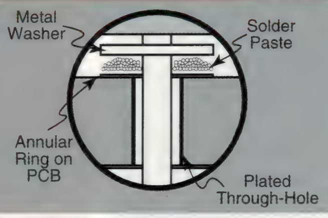
OTHER OPTION

–"XXX" = Polarized (Specify "xxx" as position number)

–LL = Locking Lead

Two leads per strip crimped in opposite directions on or near centerline. Available on tails from (2,29) .090" to (7,87) .310" only. N/A with single row 1 or 2 positions.

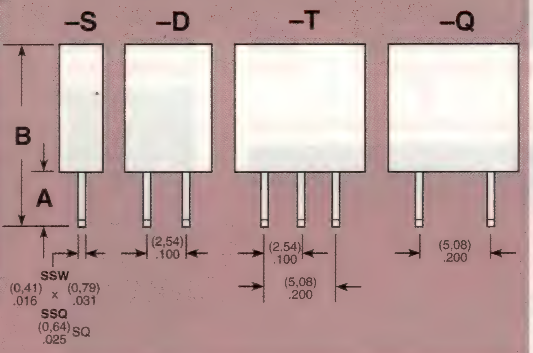
–MW = Metal Washers on Solder Tails (SSQ only) (Not available with –T, –LL or –RA) Available on 01, 02, 21 & 22 styles only.



Straight Pin Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE DOUBLE OR TRIPLE	
Standard Insertion Force	Low Insertion Force*	A	B
– 01	– 21	(2,54) .100	(11,05) .435
– 02	– 22	(4,83) .190	(13,34) .525
– 03	– 23	(9,91) .390	(18,42) .725
– 04	– 24	(14,73) .580	(23,24) .915
– 06**	N/A	(3,00) .118	(11,50) .453

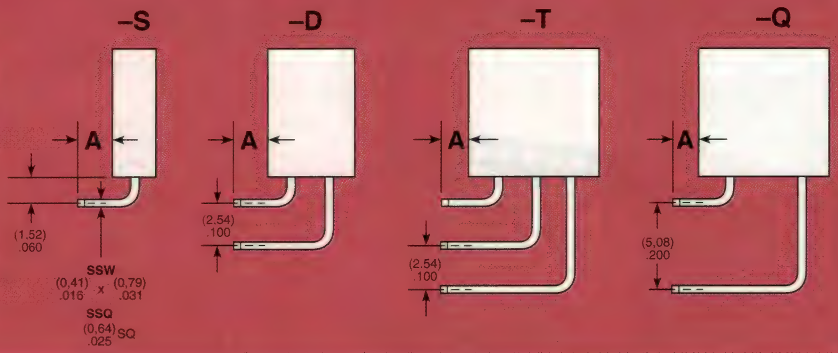
* LIF N/A with Tin Plating
**Style –06 N/A with SSQ



Right Angle Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE (–S & –P)	DOUBLE (–D)	TRIPLE (–T & –Q)
Standard Insertion Force	Low Insertion Force*	A	A	A
– 02	–22	(2,54) .100	(2,54) .100	(2,54) .100
– 03	–23	(7,62) .300	(7,62) .300	N/A
– 04	–24	(12,45) .490	N/A	N/A

*LIF N/A with Tin Plating



(2,54mm) .100"

F-198-2

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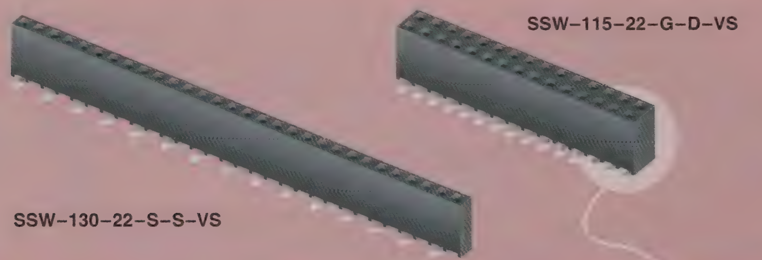
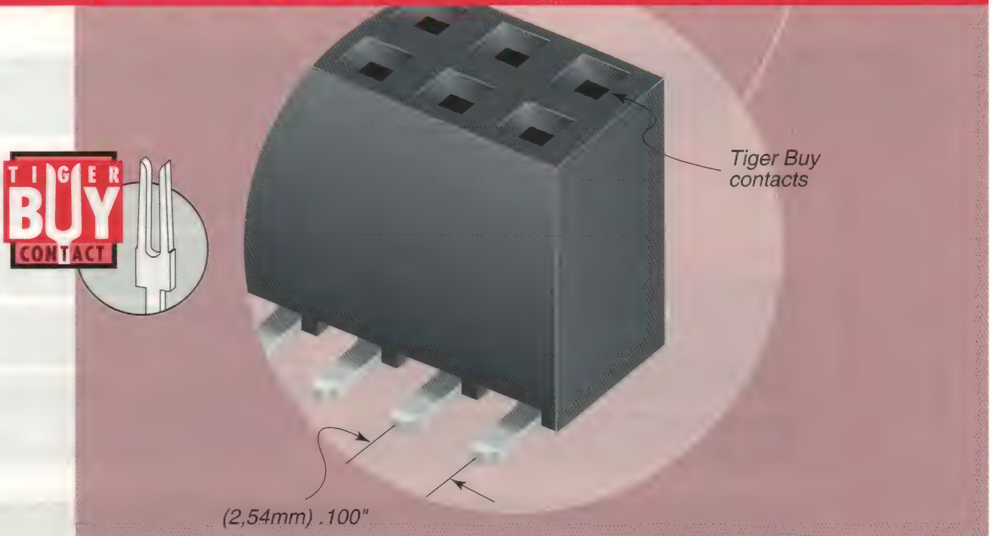


Surface **SMT** Mount

T/H Page 130

.025"SQ SMT SOCKET SSW SERIES



SPECIFICATIONS

Materials:

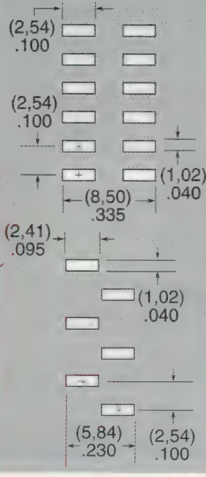
Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Current Rating: 3A continuous
Operating Temp Range: -65°C to +125°C with Gold -65°C to +105°C with Tin
Plating: Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (3,68mm) .145" to (6,35mm) .250"
Insertion Force: 3oz (0,83N) avg
Withdrawal Force: 2.6oz (0,72N) avg
Impedance: 50Ω (system @ 50Ω)
Propagation Delay: 76.0pS @ 100pS
Cross Talk: -18.3 dB G/S/S/G @ 1.0 GHz
Max Cycles: 100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates With: TSW, MTSW, FHW, MTLW, BST, LCW, EW, ZW, TSS, ZSS, TSM

Processing:

Max Processing Temp: 230°C for 60 seconds
SMT Lead Coplanarity: (0,10mm) .004" max
Suggested Paste Thickness: For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts: Your specific layout may vary



(2,54mm) .100"

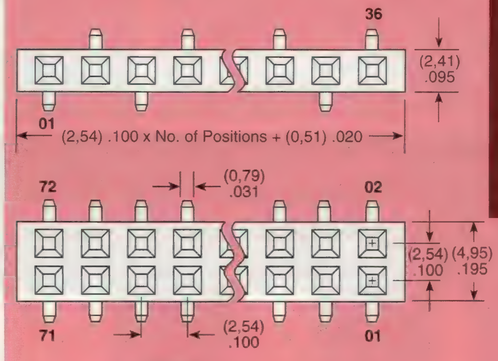
SSW – 1 – NO. PINS PER ROW – 22 – PLATING OPTION – ROW OPTION – VS – OTHER OPTION

02 thru 36

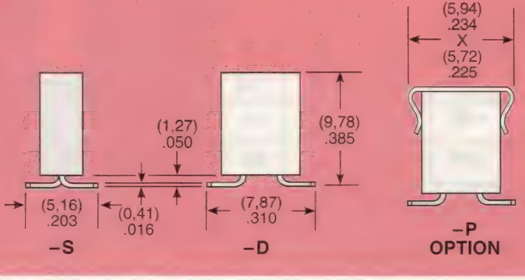
PLATING OPTION:
- **–G** = 20µ" (0,51µm) Gold on contact Gold flash on tail
- **–S** = 30µ" (0,76µm) Gold on contact 200µ" (5,08µm) Tin tail

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row

OTHER OPTION:
- **–"XX"** = Polarized Position
- **–P** = Pick & Place Pad
- **–TR** = Tape & Reel Packaging



TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.



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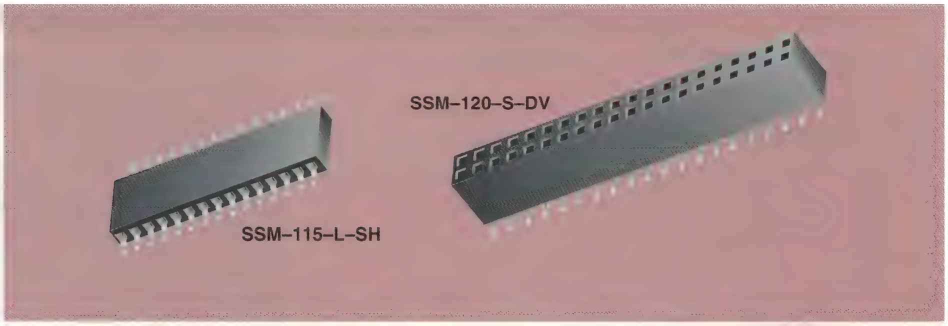
POPULAR CONNECTORS Ship in 3 DAYS



Surface SMT Mount

.025" SQ SMT SOCKET SSM SERIES

COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

Mates with: TSW, MTSW, LCW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM

Features:

- High quality double beam contacts insure performance
- Can be terminated in four styles, depending on your application: standard vertical profiles, and a choice of two horizontal profiles

Specifications: SSM

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Current Rating: 1A
Operating Temp Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Max Processing Temp: 230°C for 60 seconds
Plating: Au, PdNi or Sn over 50µ" (1,27µm) Ni
SMT Lead Coplanarity: Less than 28 positions (0,15mm) .006" max; More than 27 positions (0,20mm) .008" max
Contact Resistance: 10 mΩ max
Insertion Depth: SV/DV is (4,34mm) .171" to (7,24mm) .285" or pass through from top; (5,56mm) .219 plus board thickness minimum from bottom; SH/DH is (4,34mm) .171" to (6,35mm) .250"
Insertion Force: 5oz (1,39N) average
Normal Force: 125 grams (1,21N) average
Withdrawal Force: 2oz (0,56N) average
Impedance: 50Ω (system @ 50Ω)
Propagation Delay: 89.8pS @ 100pS
Cross Talk: -20.5 dB G/S/S/G @ 1.0 GHz

Note: Some lengths, styles and options are non-standard, non-returnable.

SSM – 1 – NO. PINS PER ROW – PLATING OPTION – ROW OPTION – OTHER OPTION

02 thru 36

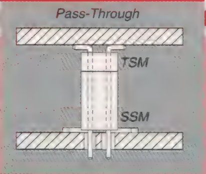
APPLICATION SPECIFIC OPTION
Locking clips available. Call Samtec.

PLATING OPTION:

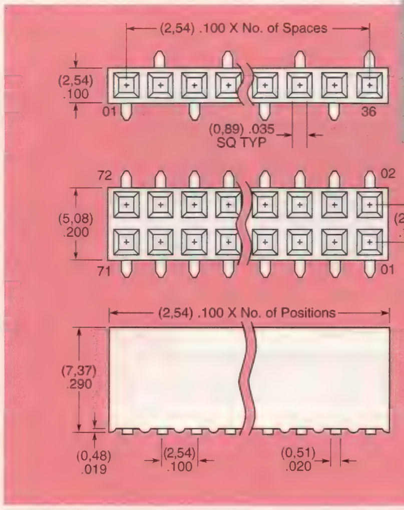
–S = 30µ" (0,76µm) Gold on contact, 150µ" (3,81µm) Tin on tail

–L = 10µ" (0,25µm) Gold on contact, 150µ" (3,81µm) Tin on tail

APPLICATION

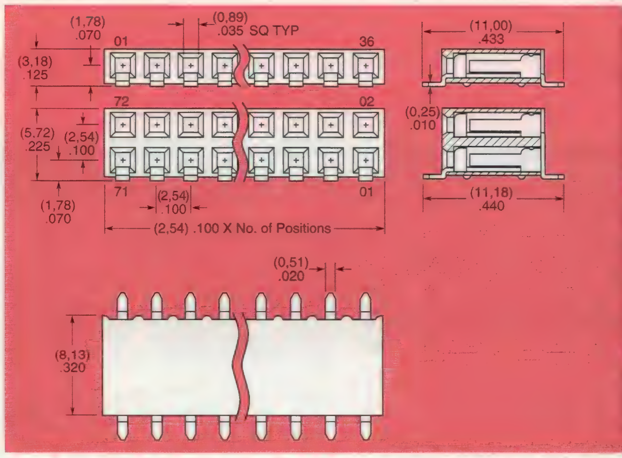


ROW OPTION:



–SV = Single Row Vertical Pin

–DV = Double Row Vertical Pin



–SH = Single Row Horizontal Pin

–DH = Double Row Horizontal Pin

OTHER OPTION:

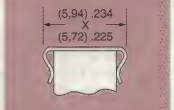
–TR = Tape & Reel Packaging

–BE = Bottom Entry (–DV & –SV only)

–K = (6,50mm) .256" DIA Polyimide film Pick & Place Pad (5 positions min.) (–DV only)

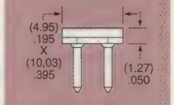
–"XX" = Polarized Position

–M = Metal Pick & Place Pad



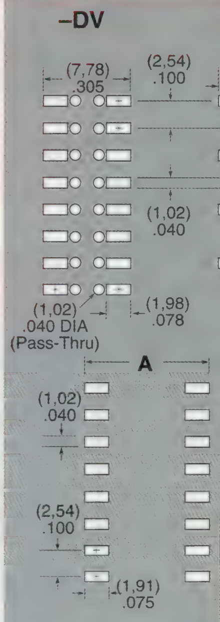
(–DV only)

–P = Pick & Place Pad



(–DV & –SV only)

SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



Row Option	A
– SH	(11,25) .443
– DH	(11,68) .460

(2,54mm) .100"

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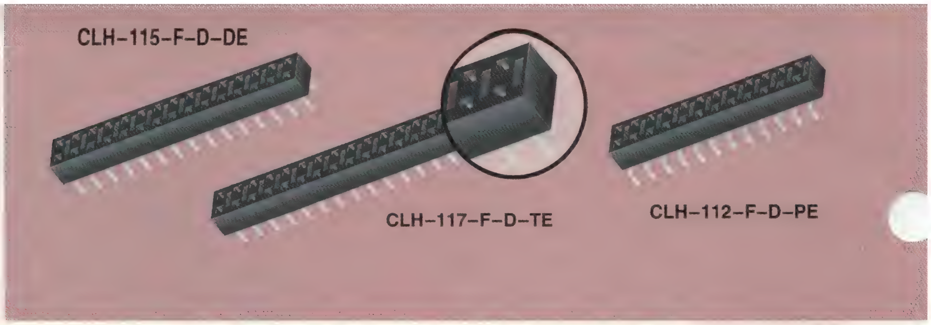
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole | SMT Page 135

SMT Page 135

LOW PROFILE SOCKET CLH SERIES

Mates with:
TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, FHW

Specifications:
CLH

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Max Processing Temp:
230°C for 60 seconds
Plating:
Au or Sn over
50µ" (1,27µm) Ni
SMT Lead Coplanarity:
(0,10mm) .004" max
Contact Resistance:
10 mΩ max
Insertion Depth:
(2,67mm) .105" to
(3,43mm) .135"
plug from top, (3,18mm)
.125" min plus board
thickness plug from bottom
Insertion Force:
4.0oz (1,11N) average
Normal Force:
50 grams (0,48N)
Withdrawal Force:
1.1oz (0,31N) average
Max Cycles:
100 with 10µ" (0,25µm) Au
Impedance:
50Ω (system @ 50Ω)
Propagation Delay:
81.4pS @ 500pS
Cross Talk:
-29.5 dB G/S/G/S
@ 1.0 GHz
-28.8 dB G/S/S/G
@ 1.0 GHz

TIGER CLAW CONTACT

CURRENT RATING	
AMBIENT TEMPERATURE	DW mated with CLH
20°C	2.2A
40°C	2A
60°C	1.8A
80°C	1.2A

(2,54mm) .100"

Note: Some lengths, styles and options are non-standard, non-returnable.

CLH – 1 NO. PINS PER ROW – PLATING OPTION – D – ENTRY OPTION

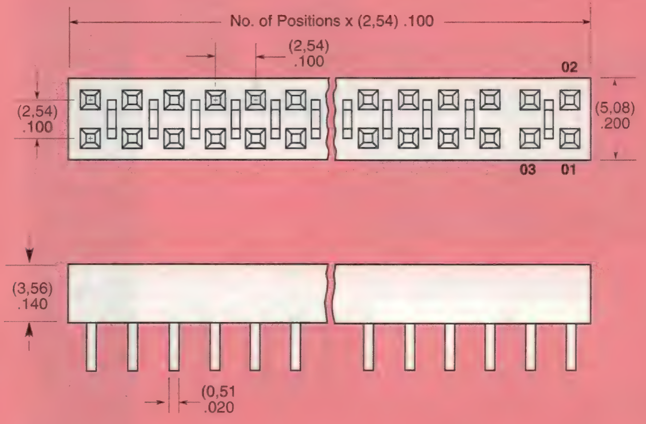
APPLICATION SPECIFIC OPTION

Alignment pins available for –PE option. Call Samtec.

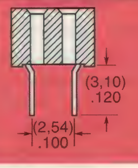
–L = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail

–F = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin on tail

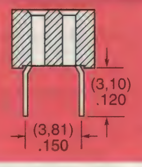
02 thru 50



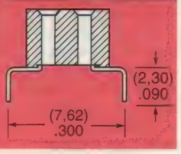
–TE
=Top Entry



–DE
=Dual Entry
(Top or Bottom Entry)
(Cannot be used with plated-through-holes for bottom entry)

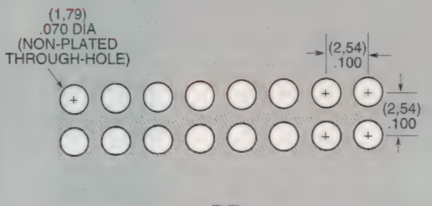


–PE
=Pass Through
(Top or Bottom Entry)

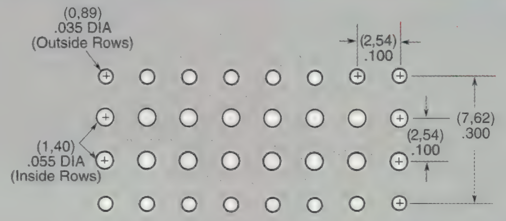


SUGGESTED PCB LAYOUTS
(Your specific layout may vary)

Board fixturing may be required to assure proper alignment for Pass-Through applications.



–DE



–PE

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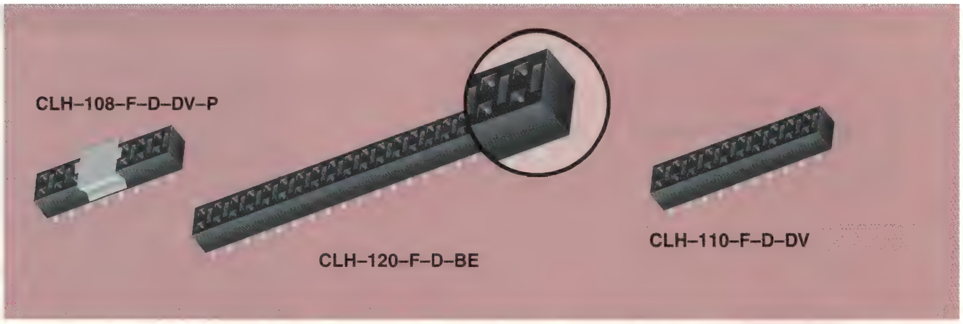
POPULAR CONNECTORS Ship Next DAY



Surface SMT Mount

T/H Page 134

LOW PROFILE SOCKET CLH SERIES

Mates with:
TSW, MTSW, HW, DW, EW, ZW, TLW, TSM, MTLW, FHW

Specifications: CLH

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Max Processing Temp: 230°C for 60 seconds
Plating: Au or Sn over 50µ" (1,27µm) Ni
SMT Lead Coplanarity: (0,10mm) .004" max
Contact Resistance: 10 mΩ max
Insertion Depth: (2,67mm) .105" to (3,43mm) .135" plug from top, (3,18mm) .125" min plus board thickness plug from bottom
Insertion Force: 4.0oz (1,11N) average
Normal Force: 50 grams (0,48N)
Withdrawal Force: 1.1oz (0,31N) average
Max Cycles: 100 with 10µ" (0,25µm) Au
Impedance: 50Ω (system @ 50Ω)
Propagation Delay: 81.4pS @ 500pS
Cross Talk: -29.5 dB G/S/G/S @ 1.0 GHz; -28.8 dB G/S/S/G @ 1.0 GHz

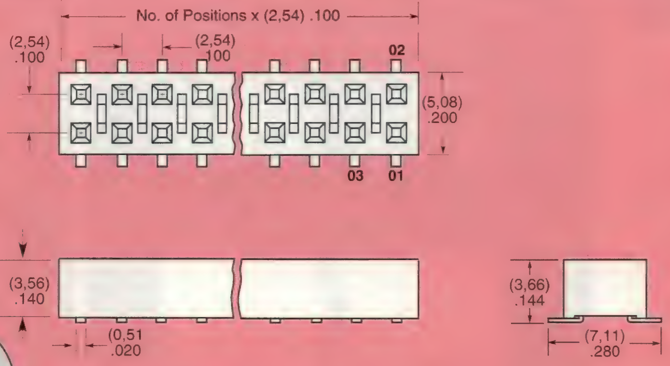
CURRENT RATING	
AMBIENT TEMPERATURE	TSM mated with CLH
20°C	3.2A
40°C	2.8A
60°C	2.3A
80°C	1.6A

Note: Some lengths, styles and options are non-standard, non-returnable.

CLH – 1 – NO. PINS PER ROW – PLATING OPTION – D – ENTRY OPTION – OTHER OPTION

APPLICATION SPECIFIC OPTION
Polarized option available. Call Samtec.

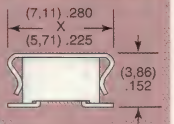
02 thru 50



PLATING OPTION
–L = Pre-plated 10µ" (0,25µm) Gold on contact, 75µ" (1,91µm) Tin on tail
–F = Pre-plated Gold flash on contact, 75µ" (1,91µm) Tin on tail

ENTRY OPTION
–DV = Top Entry
–BE = Bottom Entry

OTHER OPTION
–P = Pick & Place Pad (4 positions minimum)

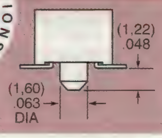


COST SAVING SOLUTIONS FLEX PROCESSING SEE PAGE 17

Not always necessary for auto placement. See Flex Processing.

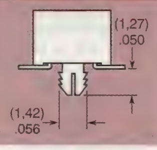
–K = (6,50mm) .256" DIA Polyimide film Pick & Place Pad (3 positions min.)

–A = Alignment Pin (5 positions minimum)



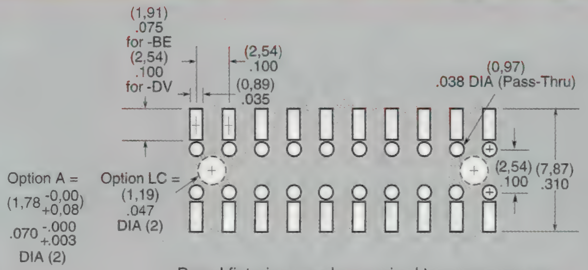
COST SAVING SOLUTIONS FLEX MOLD SEE PAGE 8

–LC = Locking Clip



–TR = Tape & Reel Packaging

SUGGESTED PCB LAYOUTS
(Your specific layout may vary)



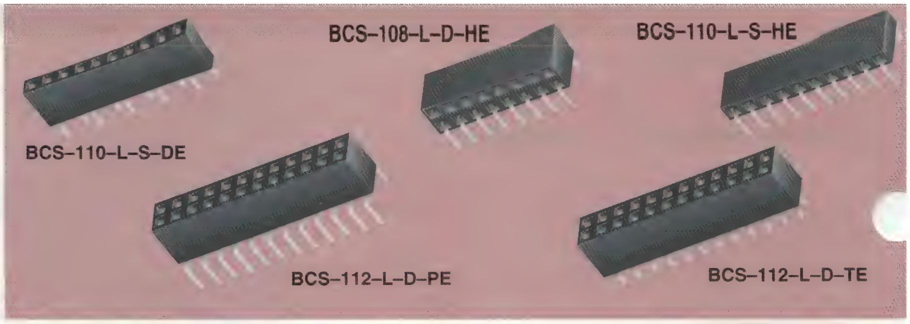
Board fixturing may be required to assure proper alignment for Pass Through applications.

TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

(2,54mm) .100"

samtec

POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

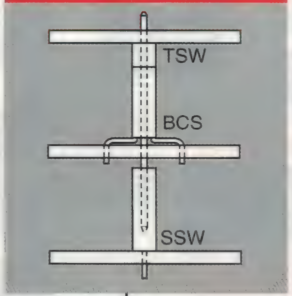
BOX CONNECTOR STRIPS BCS SERIES

Mates with:
TSW, MTSW, LCW, BST, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, FHW,

Features:

- Low profile box connector strips
- Top entry, pass through entry, dual entry, horizontal entry
- New pass through entry for use with plated-through holes

APPLICATION



Specifications:

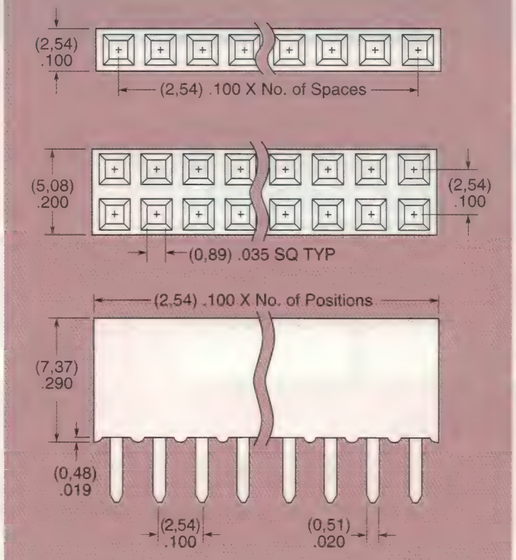
BCS HI-TEMP

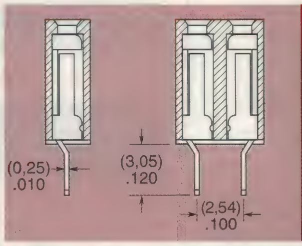
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Current Rating:
1A @ 125°C; 3A @ 110°C
Operating Temp Range:
-65°C to +125°C
Max Processing Temp:
260°C for 10 seconds and 230°C for 30 to 60 seconds
Plating:
Au, PdNi or Sn over 50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(4,34mm) .171" to (6,55mm) .285" from top, (5,64mm) .222" plus board thickness minimum from bottom. –HE is (4,34mm) .171" to (6,35mm) .250"
Insertion Force:
5 oz (1,39N) avg (.025" (0,64mm) SQ pin)
Withdrawal Force:
3 oz (0,83N) avg (.025" (0,64mm) SQ pin)

(2,54mm) .100"

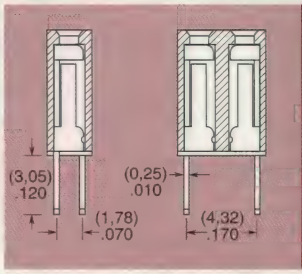
Note: Some lengths, styles and options are non-standard, non-returnable.

BCS	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	ROW OPTION	–	ENTRY OPTION
			01 thru 50		–L = 10µ" (0,25µm) Gold on Contact, 200µ" (5,08µm) Tin on tail		–S = Single –D = Double		–TE = Top Entry –DE = Dual Entry (Top or Bottom) (Cannot be used with plated-through holes for bottom entry) –PE = Pass Through Entry (Top or Bottom) –HE = Horizontal Entry

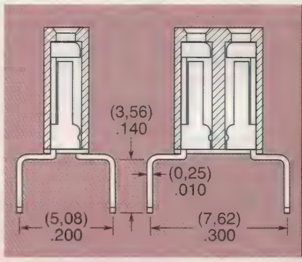




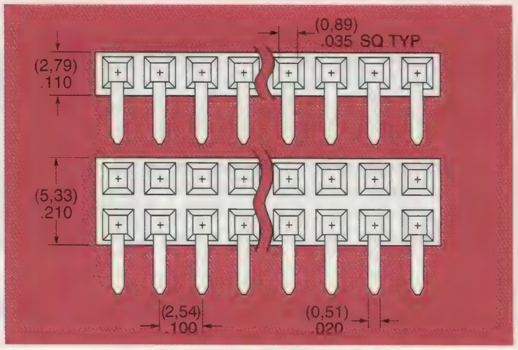
–TE = Top Entry

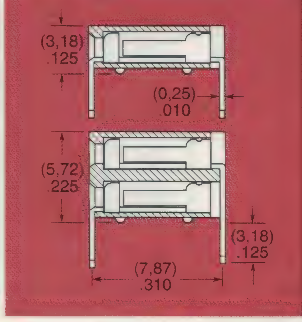


–DE = Dual Entry (Top or Bottom) (Cannot be used with plated-through holes for bottom entry)



–PE = Pass Through Entry (Top or Bottom)





–HE = Horizontal Entry

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SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 **SAMTEC JAPAN** • Tel: 81-424-42-8318 • Fax: 81-424-42-8319

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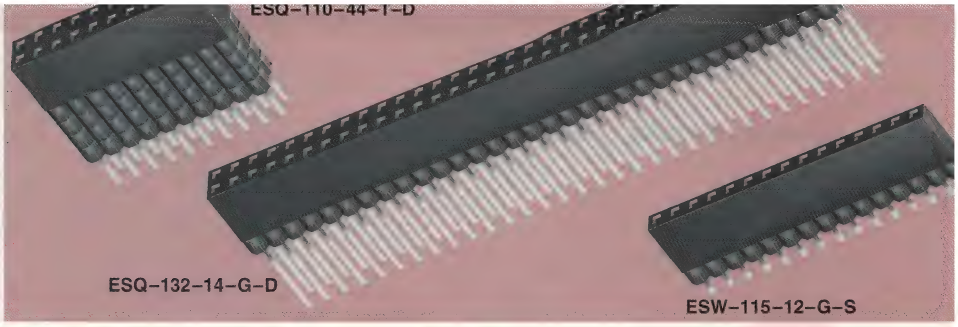
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

ELEVATED SOCKETS ESW & ESQ SERIES

Mates with:
TSW, MTSW, EW, MTLW, BST, LCW, TSS, ZSS, TSM, FHW, DW, ZW, HW

Specifications: ESW, ESQ

Insulator Material:
Black High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Current Rating:
3A continuous
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Plating:
Au or Sn over
50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,68mm) .145" to
(6,35mm) .250"
Insertion Force:
(–S plating)
Standard = 6oz (1,67N) avg ((0,64mm) .025" SQ pin);
ESW Low Insertion Force= 3oz (0,83N) avg
ESQ Low Insertion Force= 3.3oz (0,92N) avg
Normal Force:
Standard = 125 grams (4,4N)
Withdrawal Force:
(–S plating)
Standard = 5oz (1,39N) avg ((0,64mm) .025" SQ pin);
ESW Low Insertion Force= 2.6oz (0,72N) avg
ESQ Low Insertion Force= 2.9oz (0,81N) avg
Impedance:
50Ω (system @ 50Ω)
Propagation Delay:
76.0pS @ 100pS
Cross Talk:
-18.3 dB G/S/S/G @ 1.0 GHz
Max Cycles:
100 with 10µ" (0,25µm) Au

TIGER BUY CONTACT

Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

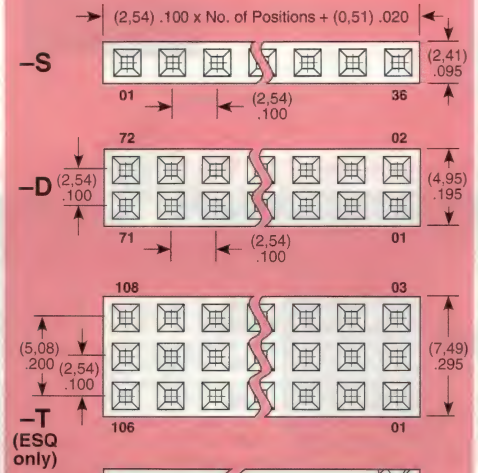
TYPE STRIP
- **ESW** = Solder tail
- **ESQ** = Square Tail

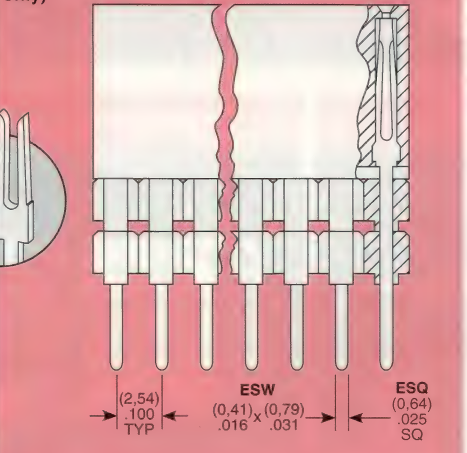
NO. PINS PER ROW
- 01 thru 36

PLATING OPTION
- **–G** = 20µ" (0.51µm) Gold Contact, Gold Flash on Balance
- **–T** = 200µ" (5,08µm) Tin Contact and Tail (N/A w/LIF contact)
- **–S** =30µ" (0,76µm) Gold on Contact area, 200µ" (5,08µm) Tin on Tail

ROW OPTION
- **–S** = Single Row
- **–D** = Double Row
- **–T** = Triple Row (ESQ only)

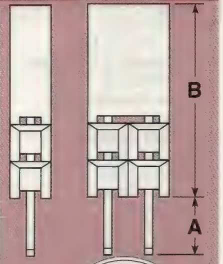
OTHER OPTION
- **–"XXX"** = Polarized
- **–LL** = Locking Lead
  Two leads per strip crimped in opposite directions on or near centerline. N/A with single row 1 or 2 positions.
- **–H–MW** = Metal Washers on Solder Tails (32 pins per row maximum) –S & –D only. (ESQ Series only)





Specify LEAD STYLE from chart below.

STANDARD INSERTION FORCE	LOW INSERTION FORCE	A	B
– 12	– 37	(2,29) .090	(11,05) .435
– 13	– 38	(7,36) .290	
– 23	– 48	(4,83) .190	(13,59) .535
– 33	– 58	(2,29) .090	(16,13) .635
– 14	– 39	(12,19) .480	(11,05) .435
– 24	– 49	(9,65) .380	(13,59) .535
– 34	– 59	(7,11) .280	(16,13) .635
– 44	– 69	(4,57) .180	(18,67) .735



EMBEDDED-PC PC/104 MODULES

APPLICATIONS

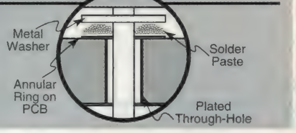
Self Nesting Sockets (ESQ Series)

PC/104 J1/P1 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-14-G-D
Low Insertion Force	ESQ-132-39-G-D
PC/104 J1 "Non-Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-12-G-D
Low Insertion Force	ESQ-132-37-G-D
PC/104 J2/P2 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-120-14-G-D
Low Insertion Force	ESQ-120-39-G-D

PC/104 is a trademark of the PC/104 Consortium.

SMT COMPATIBLE IR THROUGH-HOLE

Metal Washers!



(2,54mm) .100"

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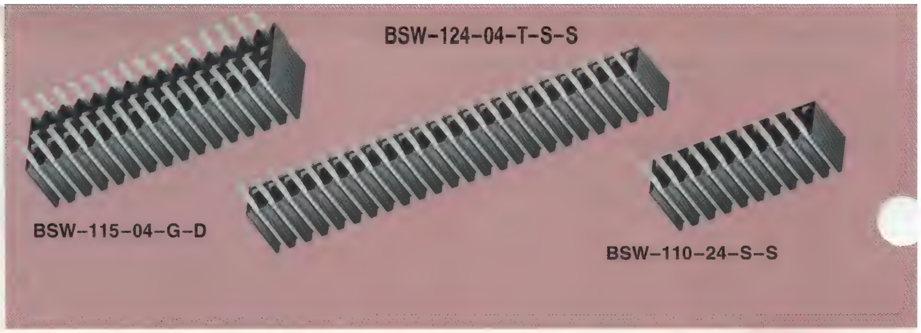
POPULAR CONNECTORS Ship in 3 DAYS



Through T/H Hole

BOTTOM MOUNT STRIPS BSW SERIES

Mates with:
TSW, MTSW, MTLW, EW, ZW, TSM

Features:

- Bottom mount socket strips accept .025" SQ terminals
- Ideal for soldering and plugging from the same side of the board.
- For low profile connections and high temperature soldering.

Specifications: BSW

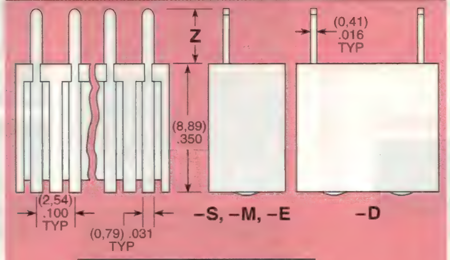
Insulator Material:
Black High Temperature Thermoplastic
Insulation Resistance:
5000 MΩ min
Contact Material:
Phosphor Bronze
Current Rating:
1A
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Plating:
Au or Sn over 50µ" (1,27µm) Ni
Withstanding Voltage:
1000 VRMS @ 60 Hz
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,68mm) .145" to (6,35mm) .250"
Insertion Force:
(–S plating)
Standard = 8oz (2,23N) avg;
Low Insertion Force = 3oz (0,83N) avg
Withdrawal Force:
(–S plating)
Standard = 8oz (2,23N) avg;
Low Insertion Force = 3oz (0,83N) avg

Note: Some lengths, styles and options are non-standard, non-returnable.

(2,54mm) .100"

BSW – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

02 thru 36



Row Option	Z
–S*	(4,31) .170
–M	(3,43) .135
–E	(2,54) .100
–D*	(4,32) .170

*Less (0,38mm) .015" with standoffs

LEAD STYLE

–04 =Standard Lead

–24 =Low Insertion Force

PLATING OPTION

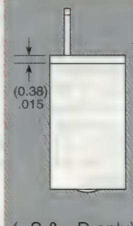
–G =20µ" (0,51µm) Gold Contact Gold Flash Tail

–S =30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Tail

–T =200µ" (5,08µm) Tin (N/A with Low Insertion Force)

OTHER OPTION

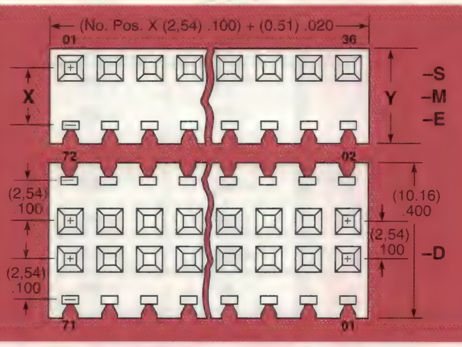
–S =Standoffs for single and double rows only.



(–S & –D only)

TIGER BUY CONTACT

ROW OPTION



Row Option	X	Y
–S	(2,54) .100	(5,08) .200
–M	(3,81) .150	(6,35) .250
–E	(4,31) .170	(8,86) .270

Body design may vary slightly from drawing shown.

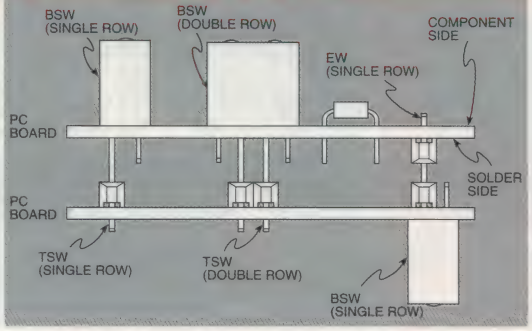
–S = Single Row

–M = Single Row More Plug Space

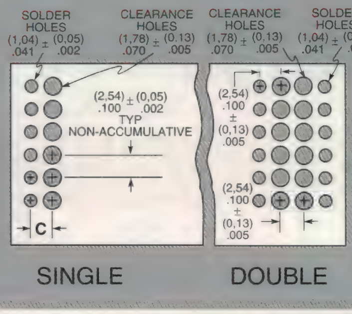
–E = Single Row Extended Plug Space

–D = Double Row

APPLICATIONS



SUGGESTED BOARD LAYOUTS



Row Option	C
–S	(2,54) .100 ± (0,13) .005
–M	(3,81) .150 ± (0,13) .005
–E	(4,32) .170 ± (0,13) .005

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Due to technical progress, all designs, specifications and components are subject to change without notice.

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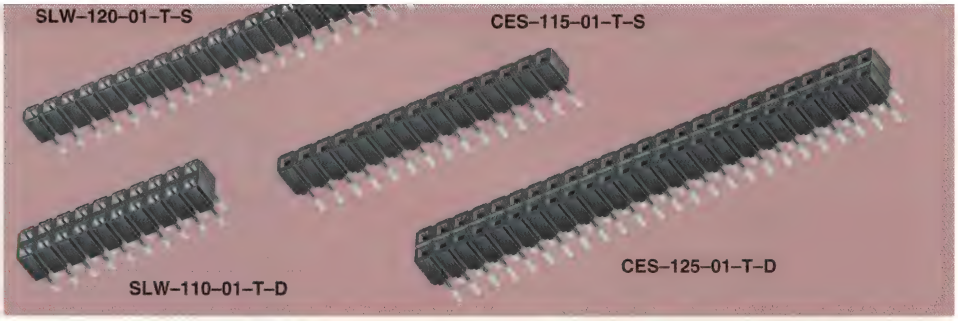
POPULAR CONNECTORS Ship Next DAY



Through T/H Hole

LOW PROFILE STRIPS SLW, CES SERIES

Mates with:
TLW, TSW, MTLW, MTSW, EW, ZW

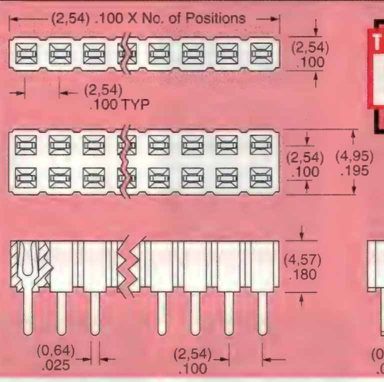
Specifications: SLW

Same as CES Series except:
Contact Material: Phosphor Bronze
Insertion Depth: (2,16mm) .085" to (2,92mm) .115"
Insertion Force: (3,34N) 12oz avg (0,64mm) .025" SQ pin
Withdrawal Force: (1,67N) 6 oz avg (0,64mm) .025" SQ pin

Note: Some lengths, styles and options are non-standard, non-returnable.

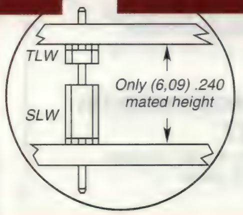
SLW – 1 NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

01 thru 50



PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold Contact 150µ" (3,81µm) Tin tail
- **–G** = 20µ" (0,51µm) Gold contact Gold flash on balance
- **–T** = 150µ" (3,81µm) Tin

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row



Mates with:
TLW, TSW, MTLW, MTSW, EW, ZW, DW

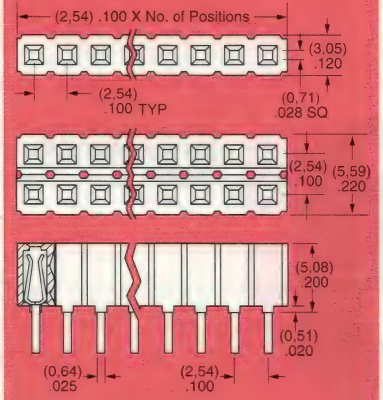
Specifications: CES

Insulator Material: Black Glass Filled Polyester
Contact Material: BeCu
Current Rating: 1 A
Operating Temp Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Plating: Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (4,06mm) .160"
Insertion Force: (2,22N) 8 oz avg (0,64mm) .025" SQ pin
Withdrawal Force: (1,11N) 4 oz avg (0,64mm) .025" SQ pin

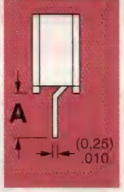
Note: Some lengths, styles and options are non-standard, non-returnable.

CES – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – RA OPTION

01 thru 50



LEAD STYLE:
- **–01** = (3,05) .120 "A" Dim.
- **–02** =(5,46).215 "A" Dim.

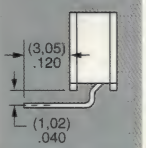


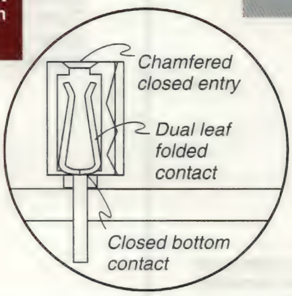
PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold contact 200µ" (5,08µm)Tin tail
- **–T** = 200µ" (5,08µm) Tin
- **–G** = 20µ" (0,51µm) Gold contact Gold flash on balance

ROW OPTION:
- **–S** = Single Row
- **–D** = Double Row

RA OPTION:
- **–RA** = Right Angle version

Style –02 only
Single Row only





(2,54mm) .100"

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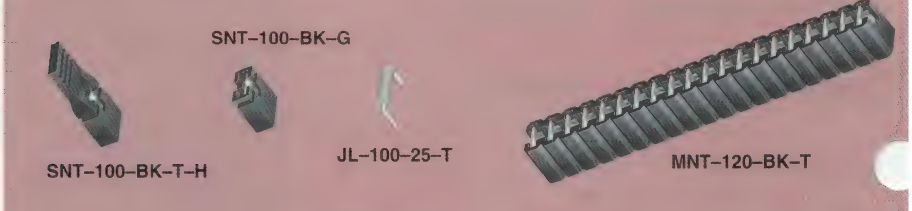
POPULAR CONNECTORS Ship Next DAY



SHUNTS & JUMPERS SNT, MNT & JL SERIES

Mates with:
TSW, MTSW, TLW, MTLW, BST, LCW, DW, EW, ZW, HW, TSM

Specifications: SNT

Insulator Material: Glass Filled Polyester
Contact Material: Phosphor Bronze
Current Rating: 2.5A
Operating Temp Range: -40°C to +90°C
Contact Resistance: 5 mΩ max
Insertion Depth: (4,32mm) .170" min
Insertion Force: 33oz (9,17N) average
Withdrawal Force: 27oz (7,51N) average

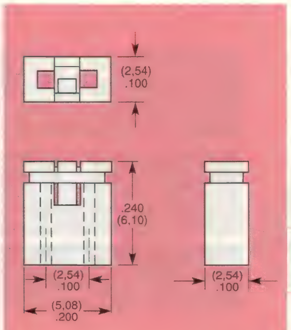
Specifications: MNT

Same as SNT except not UL rated

Note: Some lengths, styles and options are non-standard, non-returnable.

(2,54mm) .100"

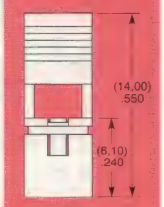
SNT – 100 – BODY COLOR – PLATING OPTION – HANDLE OPTION



BODY COLOR
- –BK = Black
- –OR = Orange
- –RD = Red
- –BL = Blue
- –YW = Yellow

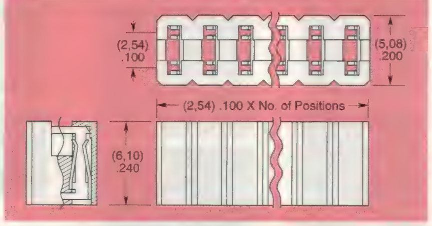
PLATING OPTION
- –T = 200µ" (5,08µm) Tin
- –G = 10µ" (0,25µm) Gold
- –H = 30µ" (0,76µm) Gold on Contact, Gold Flash on Balance

HANDLE OPTION
- –H = Handle (Black Only)



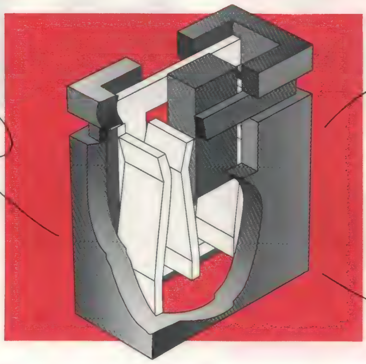
MNT – 1 – NO. OF POSITIONS – BODY COLOR – PLATING OPTION

NO. OF POSITIONS: 02 thru 20



BODY COLOR
- –BK = Black

PLATING OPTION
- –T = 200µ" (5,08µm) Tin
- –G = 10µ" (0,25µm) Gold



Mates with Samtec TSW series and most other .025" Square headers.

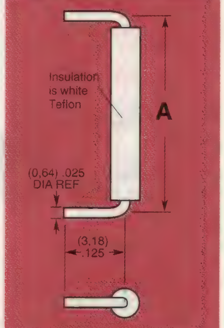
Available as Single (SNT) or Multi (MNT) Position.

Available with fast delivery on large quantities or small.

Specifications: JL

Insulator Material: White Teflon per MIL–T–16878 Type E
Insulation Resistance: >10^8 ohm-cm
Terminal Material: Tinned 22 gauge Copper Wire
Current Rating: 1.6 amp @ 60°C
Plating: Ag per MIL–QQW–343

JL



Part No.	A
JL - 100 - 25 - T	(2,54) .100
JL - 250 - 25 - T	(6,35) .250
JL - 300 - 25 - T	(7,62) .300
JL - 400 - 25 - T	(10,16) .400
JL - 500 - 25 - T	(12,70) .500
JL - 600 - 25 - T	(15,24) .600
JL - 1000 - 25 - T	(25,40) 1.000

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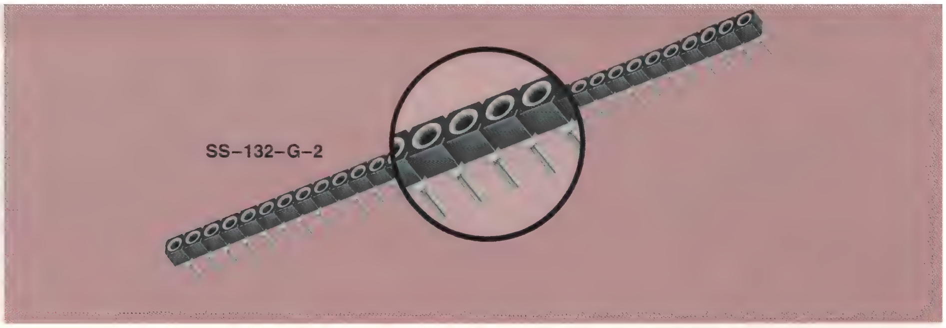
POPULAR CONNECTORS Ship Next DAY



SOCKET STRIPS SS, SD & HSS SERIES

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS,

Specifications: SS, SD

Insulator Material: Black Glass Filled Polyester
Operating Temp Range: -65°C to +125°C
Contact: BeCu
Shell: Brass except Styles 5A Phosphor Bronze
Current Rating: 1A
Plating: Au over 50μ" (1,27μm) Ni or Sn over 50μ" (1,27μm) Ni
Contact Resistance: 10 mΩ max
Lead Size Range: (0,38mm to 0,56mm) .015" to .022" DIA and most IC leads
Insertion Force:
Standard=
9oz (2,50N) avg,
16oz (4,45N) max
Low Insertion Force=
2.5oz (0,70N) avg,
5.5oz (1,53N) max
Withdrawal Force:
Standard=
2.5oz (0,70N) avg,
1.5oz (0,42N) min
Low Insertion Force=
2.0oz (0,56N) avg,
0.35oz (0,10N) min

Specifications: HSS

Same as SS except:
Insulator Material: Black Liquid Crystal Polymer
Max Processing Temp: 230°C for 30 to 60 sec.

ALSO AVAILABLE

Other lead styles available. Request FactSheet.

Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	PLATING OPTION	LEAD STYLE	OPTION	OTHER OPTION

NO. PINS PER ROW

01 thru 32 =SS Series

01 thru 36 =HSS & SD Series

PLATING OPTION

–G = 30μ" (0,76μm) Gold contact
10μ" (0,25μm) Gold shell

–T = 30μ" (0,76μm) Gold contact
200μ" (5,08μm) Tin shell

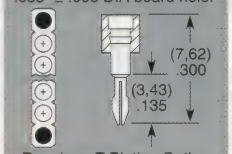
–S = 10μ" (0,25μm) Gold contact
200μ" (5,08μm) Tin shell
(Styles 2 & 22 only)

–TT = 200μ" (5,08μm) Tin contact and shell
(Styles 1, 2, 18, 21 & 22 only)

OPTION

–L = Locking Socket

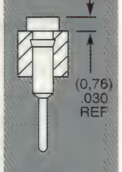
Add –L suffix for locking lead socket in end positions. Requires Style -2 or -22 and .035" ± .003 DIA board hole.



Requires -T Plating Option

OTHER OPTION

–N =Non Flush



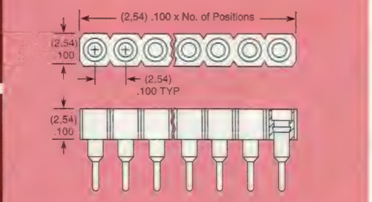
N/A Style –5A

TYPE STRIP

SS = Single Row Standard Socket Strip

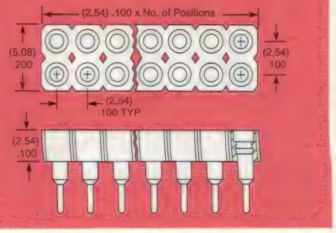
HSS = Single Row High Temp Socket Strip

Style –5, socket heads not countersunk.



SD = Double Row Standard Socket Strip

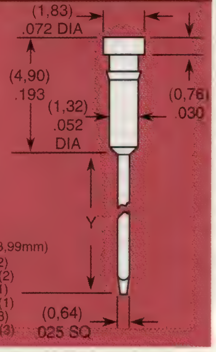
Style –5 not available.



LEAD STYLE

–1A, –1B or –1C
For LIF specify –21A, –21B or –21C

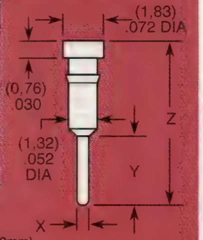
LEAD STYLE	Y
–1A or –21A	(9,14) .360
–1B or –21B	(12,95) .510
–1C or –21C	(6,60) .260



Insertion Depth = .125" to .157" (3,18mm to 3,99mm)
Style 1A Component Part No. = SC-1W1(2)
Style 21A Component Part No. = EZ-1W1(2)
Style 1B Component Part No. = SC-1W1(1)
Style 21B Component Part No. = EZ-1W1(1)
Style 1C Component Part No. = SC-1W1(3)
Style 21C Component Part No. = EZ-1W1(3)

–2, –22*, –5A, –7 or –38*
*For LIF specify –22 or –38

LEAD STYLE	X DIA	Y	Z
–2 OR –22	(0,51) .020	(3,18) .125	(7,62) .300
–38	(0,51) .020	(4,57) .180	(8,89) .350
–7	(0,64) .025	(10,41) .410	(15,24) .600
–5A	(0,89) .035	(12,95) .510	(17,86) .703



Locking lead available. See OPTION.

Insertion Depth = .095" to .145" (2,41mm to 3,68mm)
Style 2 Component Part No. = SC-1P1
Style 22 Component Part No. = EZ-1P1
Style 18 Component Part No. = SC-6P1
Style 38 Component Part No. = EZ-6P1
Option L Component Part No. = SC-1L1 or EZ-1L1
Insertion Depth = .095" to .138" (2,41mm to 3,51mm)
Style 7 Component Part No. = SC-1P3
Insertion Depth = .125" to .157" (3,18mm to 3,99mm)
Style 5A Component Part No. = SC-2P1

(2,54mm) .100"

F-198-2

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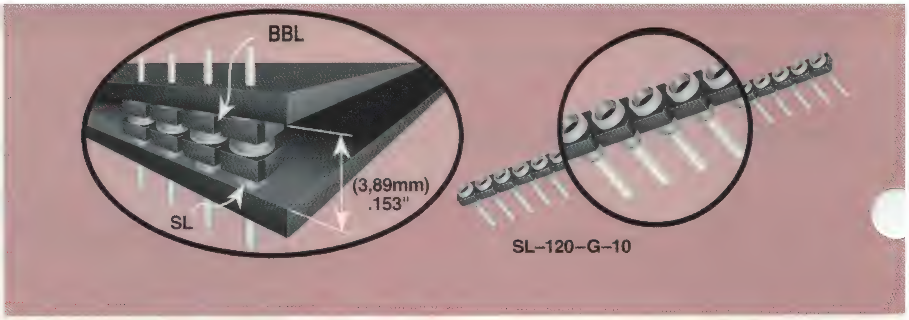
POPULAR CONNECTORS Ship Next DAY



LOW PROFILE SOCKET STRIPS SL & SDL SERIES

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS

Features:

- Achieve low profile without sacrificing insertion depth!
- Choice of four precision screw machined lead styles
- Exceptionally low profile, down to (2,11mm) .083" off of board
- Mates with BBL or BDL for board stacking spaces down to (3,89mm) .153"

Specifications: SL, SDL

Insulator Material: Black Glass Filled Polyester
Operating Temp Range: -65°C to + 125°C with Gold; -65°C to + 105°C with Tin
Contact/Shell Materials: BeCu/Brass
Plating: Au or Sn over 50µ" (1,27µm) Ni
Current Rating: 1A
Contact Resistance: 10 mΩ max
Insertion Force:
Standard = 9 oz (2,50N) avg, 16oz (4,45N) max ((0,43mm) .017" DIA probe)
Low Insertion Force = 2.5oz (0,70N) avg, 5.5oz (1,53N) max ((0,43mm) .017" DIA probe except Style 30 (0,46mm) .018" DIA probe)
Withdrawal Force:
Standard = 2.5oz (0,70N) avg, 1.5oz (0,42N) min ((0,43mm) .017" DIA probe)
Low Insertion Force = 2.0oz (0,56N) avg, 0.5oz min ((0,43mm) .017" DIA probe except Style 30 is 2.0oz (0,56N) avg, .35oz (0,10N) min (0,46mm) .018" DIA probe)

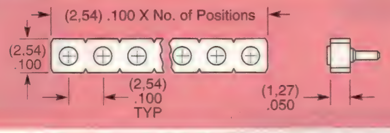
(2,54mm) .100"

Note: Some lengths, styles and options are non-standard, non-returnable.

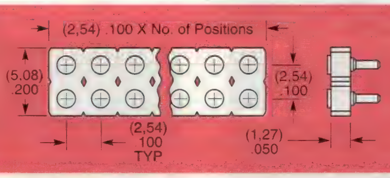
TYPE STRIP – 1 – NO. PINS PER ROW – PLATING OPTION – LEAD STYLE

SL = Single Row Low Profile Socket Strip

SDL = Double Row Low Profile Socket Strip



01 thru 32



01 thru 36

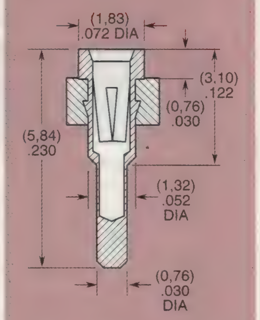
Low Insertion Force (LIF) Available

–G = 30µ" (0,76µm) Gold Contact 10µ" (0,25µm) Gold Shell

–T 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Shell

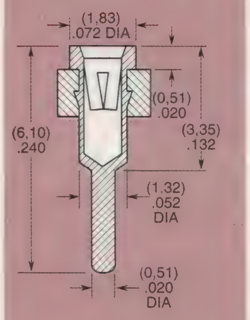
–TT 200µ" (5,08µm) Tin (LIF contacts not available)

–10 Low Profile (Hollow Leg)
For LIF specify –30



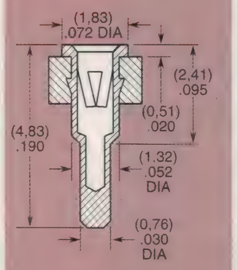
Contact Length = (2,11mm) .083"
Lead DIA Accepted = (0,38mm) .015" to (0,51mm) .020"
Insertion Depth = (2,67mm) .105" to (4,32mm) .170"
Style 10 Component Part No. = SC-3P1
Style 30 Component Part No. = EZ-3P1

–11 Low Profile (Standard Mount)
For LIF specify –31



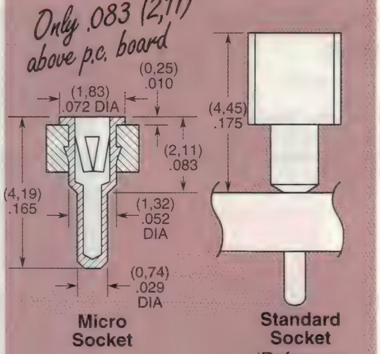
Contact Length = (1,58mm) .062"
Lead DIA Accepted = (0,41mm) .016" to (0,53mm) .021"
Insertion Depth = (2,03mm) .080" to (2,67mm) .105"
Style 11 Component Part No. = SC-4P1
Style 31 Component Part No. = EZ-4P1

–12 Micro-Socket (Hollow Leg)
For LIF specify –32



Contact Length = (1,58mm) .062"
Lead DIA Accepted = (0,41mm) .016" to (0,51mm) .020"
Insertion Depth = (1,65mm) .065" to (3,81mm) .150"
Style 12 Component Part No. = SC-5P1
Style 32 Component Part No. = EZ-5P1

–19 Micro-Socket (Hollow Leg)
For LIF specify –39



Contact Length = (1,58mm) .062"
Lead DIA Accepted = (0,41mm) .016" to (0,51mm) .020"
Insertion Depth = (1,65mm) .065" to (3,56mm) .140"
Style 19 Component Part No. = SC-8P1
Style 39 Component Part No. = EZ-8P1

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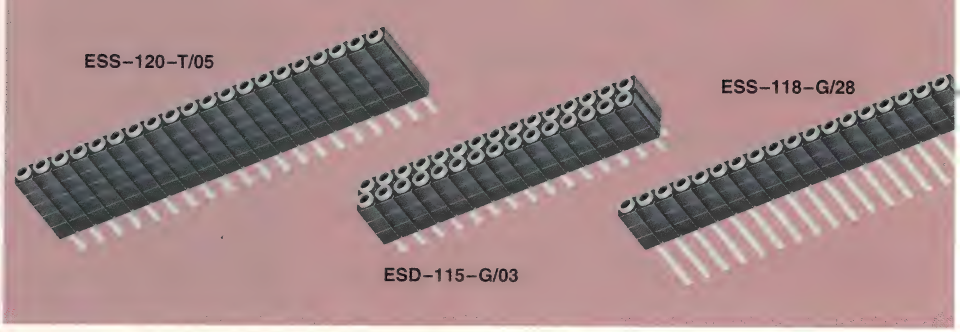
POPULAR CONNECTORS Ship in 3 DAYS



ELEVATED SOCKET STRIPS ESS, ESD SERIES

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS, LBS

Specifications: ESS, ESD

Insulator Material: Black Glass Filled Polyester
Flammability Rating: UL 94V-O
Insulation Resistance: 5000 MΩ min
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Dielectric With Standing Voltage: 1000 VRMS
Contact: BeCu
Shell: Brass
Plating: Au or Sn over 50µ" (1,27µm) Ni
Current Rating: 1A
Contact Resistance: 10 mΩ max
Lead Size Range: (0,38mm to 0,56mm) .015" to .022" DIA and most IC leads
Insertion Force: Standard= 9oz (2,50N) avg, 16oz (4,45N) max
Low Insertion Force= 2.5oz (0,70N) avg, 5.5 oz (1,53N) max
Withdrawal Force: Standard= 2.5oz (0,70N) avg, 1.5oz (0,42N) min
Low Insertion Force= 2.0oz (0,56N) avg, 0.35oz (0,10N) max
Insertion Depth: (3,18mm to 3,99mm) .125" to .157"

Note: Some lengths, styles and options are non-standard, non-returnable.

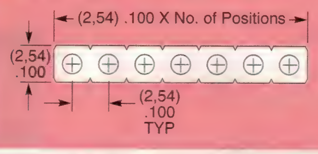
TYPE STRIP – 1 – NO. PINS PER ROW – PLATING OPTION / LEAD STYLE

TYPE STRIP

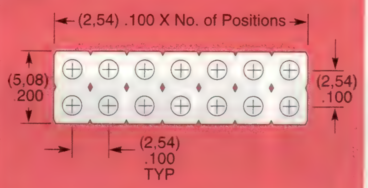
- **ESS** = Elevated Single Strip
- **ESD** = Elevated Double Strip

NO. PINS PER ROW

01 thru 32 (ESS)



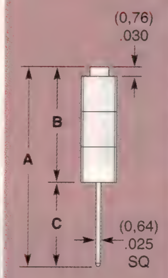
01 thru 36 (ESD)



PLATING OPTION

- **–G** = 30µ" (0,76µm) Gold Contact 10µ"(0,25µm) Gold shell
- **–T** = 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Shell
- **–TT** = 200µ" (5,08µm) Tin Contact and Shell

LEAD STYLE

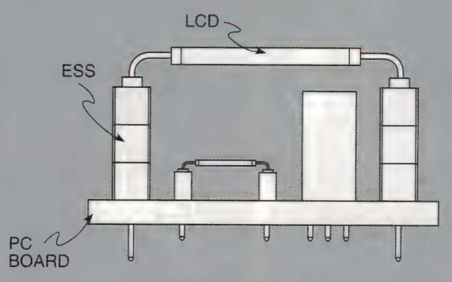


LEAD STYLE	A	B	C
03 or 23	(11,51) .453	(8,38) .330	(3,12) .123
04 or 24	(14,05) .553	(10,92) .430	(3,12) .123
05 or 25	(17,86) .703	(13,46) .530	(4,39) .173
06 or 26	(14,05) .553	(8,38) .330	(5,66) .223
07 or 27	(17,86) .703	(10,92) .430	(6,93) .273
08 or 28	(17,86) .703	(8,38) .330	(9,47) .373

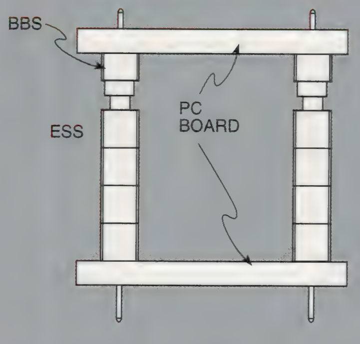
LIF= Low Insertion Force

- **/03** For LIF specify /23
- **/04** For LIF specify /24
- **/05** For LIF specify /25
- **/06** For LIF specify /26
- **/07** For LIF specify /27
- **/08** For LIF specify /28

APPLICATIONS



Elevated Components



Board Stacking

Board Space		Terminal	Socket
Inch	Millimeter		
0.400	(10.16)	BXL-1XX-X-E	ESX-1XX-X/03
0.415	(10.54)	BXL-1XX-X-F	ESX-1XX-X/03
0.500	(12.70)	BXL-1XX-X-E	ESX-1XX-X/04
0.515	(13.08)	BXL-1XX-X-F	ESX-1XX-X/04
0.540	(13.72)	BBX-1XX-X-A	ESX-1XX-X/03
0.600	(15.24)	BXL-1XX-X-E	ESX-1XX-X/05
0.615	(15.62)	BXL-1XX-X-F	ESX-1XX-X/05
0.640	(16.26)	BBX-1XX-X-A	ESX-1XX-X/04
0.665	(16.89)	BBX-1XX-X-B	ESX-1XX-X/03
0.740	(18.80)	BBX-1XX-X-A	ESX-1XX-X/05
0.765	(19.43)	BBX-1XX-X-B	ESX-1XX-X/04
0.865	(21.97)	BBX-1XX-X-B	ESX-1XX-X/05
0.915	(23.24)	BBX-1XX-X-C	ESX-1XX-X/03
1.015	(25.78)	BBX-1XX-X-C	ESX-1XX-X/04
1.115	(28.32)	BBX-1XX-X-C	ESX-1XX-X/05
1.165	(29.59)	BBX-1XX-X-D	ESX-1XX-X/03
1.265	(32.13)	BBX-1XX-X-D	ESX-1XX-X/04
1.365	(34.67)	BBX-1XX-X-D	ESX-1XX-X/05

(2,54mm) .100"

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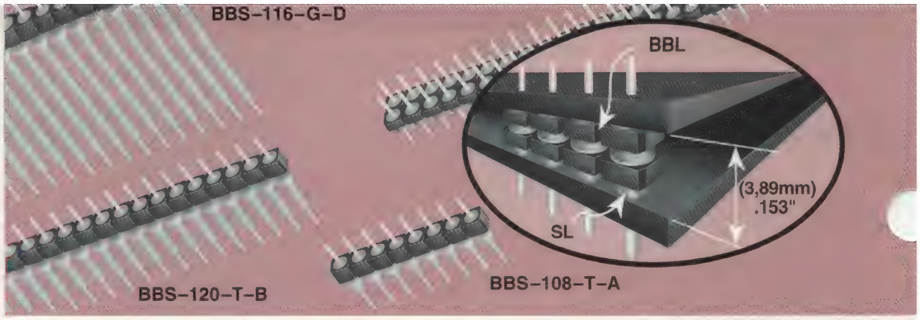
POPULAR CONNECTORS Ship Next DAY



INTERCONNECT STRIPS BBS, BBL, BHS, BBD & BDL SERIES

Mates with:
SS, SD, HSS, SL, SDL, ESS, ESD

Features:

- Low profile design achieves (3,89mm) .153" board spacings when mated with SL series
- Choice of precision machined (BXX Series) or coined (LBS Series) terminals
- Approach the reliability of a permanent connection with the flexibility of a separable connection

Specifications: BBS, BBD, BBL, BDL

Insulator Material:
Black Glass Filled Polyester
Temperature Range:
-65°C to +125°C
Terminal Material:
Phosphor Bronze or Brass
Plating:
Au or Sn over
50µ" (1,27µm) Ni
Current Rating:
1A

Specifications: BHS

Same as BBS except:
Insulator Material:
Black Liquid Crystal Polymer
Max Processing Temp:
230°C for 30 to 60 seconds

Note:
Some lengths, styles and options are non-standard, non-returnable.

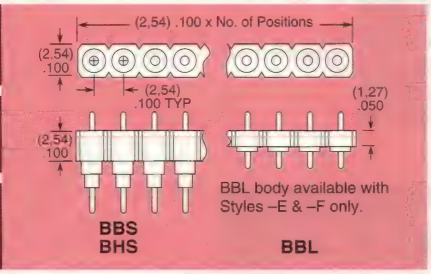
(2,54mm) .100"

TYPE STRIP – 1 – NO. PINS PER ROW – PLATING OPTION – LEAD STYLE

BBS = Standard Single Row

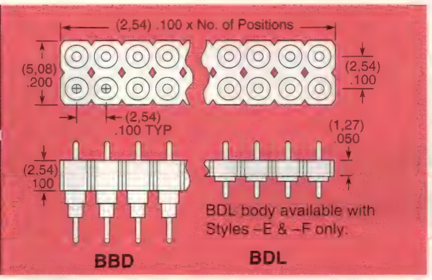
BBL = Low Profile Single Row

BHS = High Temp Single Row



BBD = Standard Double Row

BDL = Low Profile Double Row



–G =20µ" (0,51µm) Gold

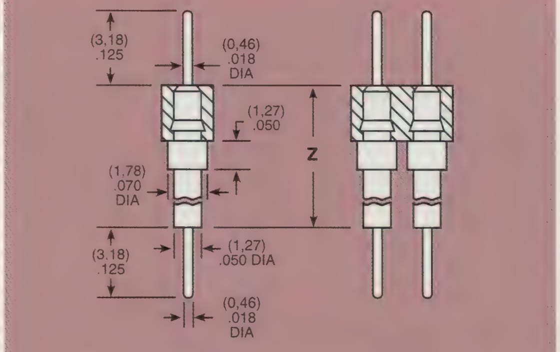
–T =200µ" (5,08µm) Tin

01 thru 32 =BBS & BBL

01 thru 36 =BBD, BDL & BHS

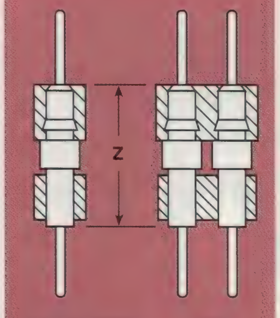
–A	–B	–C	–D	–G	–H	–E	–F
Z= (5,33) .210	Z= (8,51) .335	Z= (14,86) .585	Z= (21,21) .835	Z= (14,86) .585	Z= (21,21) .835	Z= (1,78) .070	Z= (2,16) .085

See bottom of facing page for Typical Board Spacings



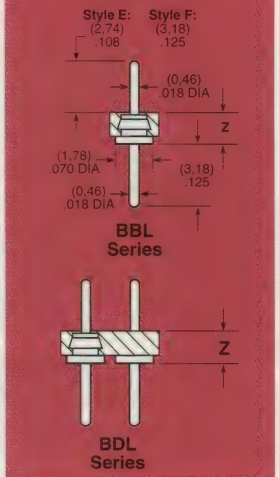
BBS and BHS Series   BBD Series

See bottom of facing page for Typical Board Spacings



BBS and BHS Series   BBD Series

See bottom of facing page for Typical Board Spacings



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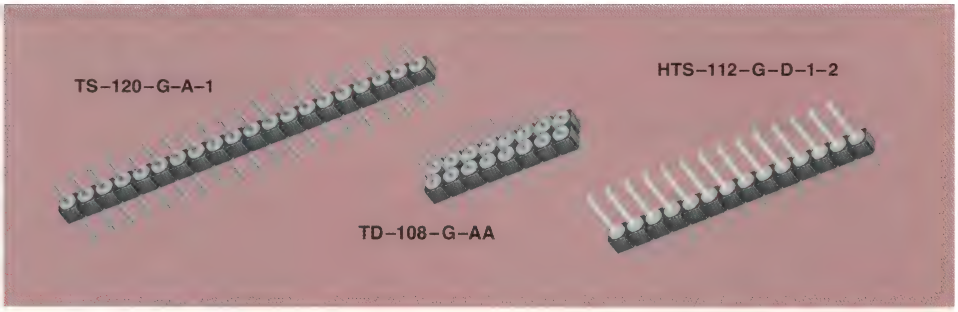
POPULAR CONNECTORS Ship Next DAY



TERMINAL STRIPS TS, TD & HTS SERIES

Specifications: TS, TD

Insulator Material: Black Glass Filled Polyester
Terminal Material: Brass, except Style G is Phosphor Bronze
Operating Temp Range: -65°C to +125°C with Gold; -65°C to + 105°C with Tin
Dielectric Withstanding Voltage: 1000 VRMS
Plating: Au over 50µ" (1,27µm) Ni or Sn over 100µ" (2,54µm) Cu or 50µ" (1,27µm) Ni
Current Rating: 1A

Specifications HTS

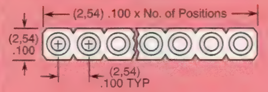
Same as TS except:
Insulator Material: Black Liquid Crystal Polymer
Max Processing Temp: 230°C for 30 to 60 sec.

Note: Some lengths, styles and options are non-standard, non-returnable.

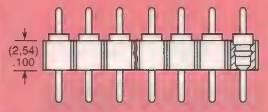
Mates with: SS, SD, HSS, SL, SDL, ESS, ESD

TYPE STRIP – 1 NO. PINS PER ROW – PLATING OPTION – LEAD STYLE

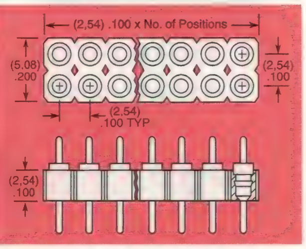
TS =Single Row Terminal Strip



HTS =Single Row High Temp Terminal Strip



TD =Double Row Terminal Strip



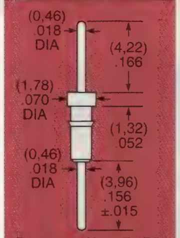
–G = 20 µ" (0,51µm) Gold Except –J & –L are 10µ" (0,25µm) Gold

–T = 200µ" (5,08µm) Tin

01 thru 32 =TS Series

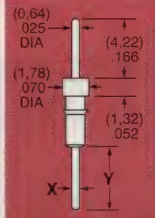
01 thru 36 =HTS & TD Series

–AA



Component No. = T-1R5-

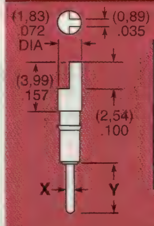
–A, –A–1, –A–2



LEAD STYLE	X (DIA)	Y (±.015)
-A	(0,46) .018	(3,96) .156
-A-1	(0,64) .025	(5,33) .210
-A-2	(0,89) .035	

-A Component No. =T-1R0-
-A-X Component No. =T-1R7

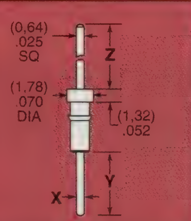
–C, –C–1, –C–2



LEAD STYLE	X (DIA)	Y (±.015)
-C	(0,46) .018	(3,96) .156
-C-1	(0,64) .025	(5,33) .210
-C-2	(0,89) .035	

-C Component No. =T-1R2-
-C-X Component No. =T-1R9-

–D–1–1, –D–1–2, –D–2–2, –D–3–2, –D–4–2

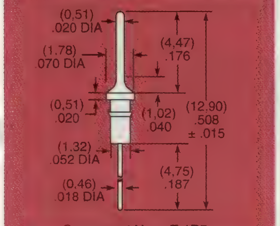


LEAD STYLE	X (DIA)	Y (±.015)	Z (±.015)
-D-1-1	(0,46) .018	(3,96) .156	(12,95) .510
-D-1-2			
-D-2-2*	(0,64) .025	(5,33) .210	(7,87) .310
-D-3-2*	(0,89) .035		
-D-4-2*	(1,14) .045		

Component No. = T-1S4-

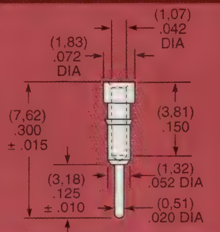
*-D-2-2, -D-3-2, D-4-2 N/A with TD Series

–G–1



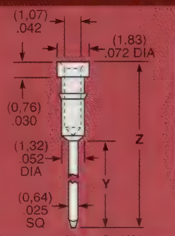
Component No. = T-1R5-

–J



Component No. = S-1P1-

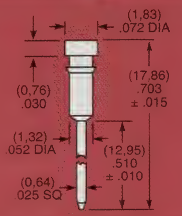
–L–1, –L–2, –L–3



LEAD STYLE	Y (DIA)	Z (±.015)
-L-1	(12,95) .510	(17,86) .703
-L-2	(9,14) .360	(14,05) .553
-L-3	(6,60) .260	(11,51) .453

Component No. = S-1W1

–M



Component No. = T-1S2-

(2,54mm) .100"

F-198-2

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POPULAR CONNECTORS Ship Next DAY

LOW COST SOCKET STRIPS SSA SERIES

Mates with:
TS, HTS, BBS, BBL, BHS, LBS

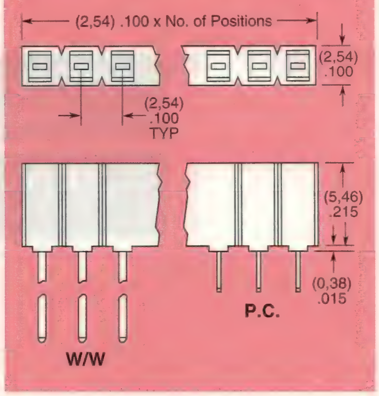
Specifications: SSA

Insulator Material: Black PET Polyester
Flammability Rating: UL 94V-O
Insulation Resistance: 5000 MΩmin
Operating Temp Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Heat Deflection Temp: 215°C @ 264 psi (1,8 MPa)
Dielectric Withstanding Voltage: 1000 VRMS
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50µ" (1,27µm) Ni
Current Rating: 1A
Contact Resistance: 10 mΩ
Lead Size Range: (0,38mm) .015" to (0,56mm) .022" DIA and most IC leads
Insertion Depth: (1,27mm) .050" to (3,30mm) .130"
Insertion Force: 10 oz (2,78N) average
Withdrawal Force: 5 oz (1,39N) average

SSA – 1 NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – RA OPTION

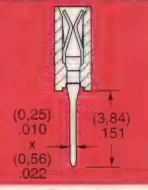
Note: Some lengths, styles and options are non-standard, non-returnable.

01 thru 32

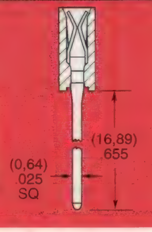


LEAD STYLE

–S = P.C.



–W = Wire Wrap



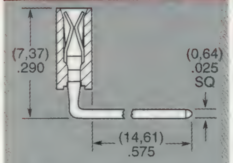
PLATING OPTION

–G = 10µ" (0,25µm) Gold

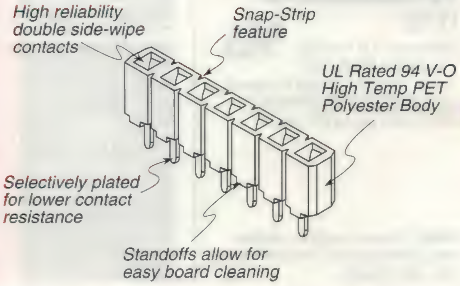
–T = 200µ" (5,08µm) Tin

RA OPTION

–RA = Right Angle



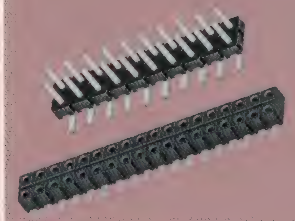
(Requires –W Lead Style)



ALSO AVAILABLE

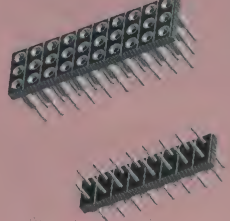
SOCKET AND TERMINAL STRIPS

Tiger Eye contacts in through-hole or surface mount socket strips.



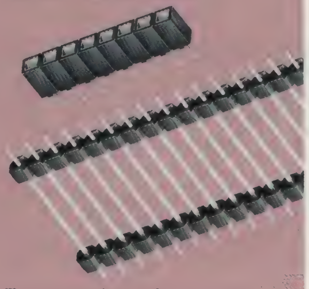
Request **TSF** or **SSF** Series FactsSheet.

Machined socket strips and terminal strips with up to 20 rows.



Request **HLS** or **HLT** Series FactsSheet.

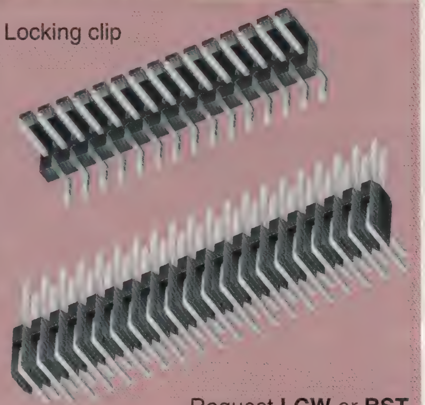
For low profile, low cost socket, request **SSK** Series FactsSheets.



For one-piece, low cost board stacker, request **LBS** Series FactsSheets.

HEADERS

Locking clip



Bottom shrouded

Request **LCW** or **BST** Series FactsSheet.

POWER TO BOARD

Combination Signal/Power Headers & Sockets 148-149
Mini Power Headers & Sockets 150-151
Isolated Power Headers & Sockets 152-153
Power Headers/Stackers & Sockets 154-155

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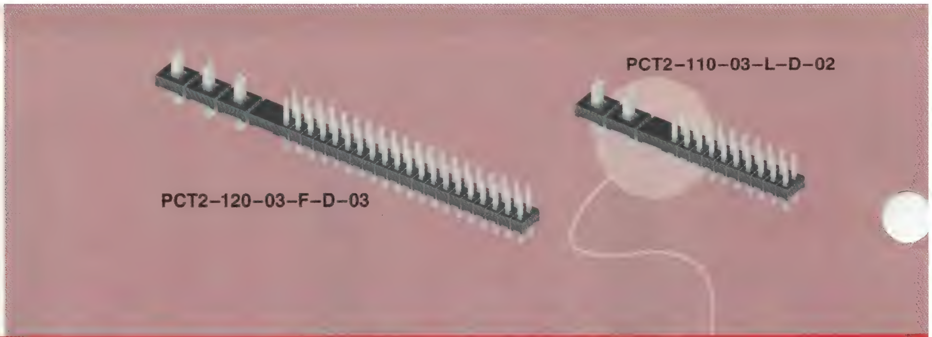


POWER COMBO TERMINAL PCT2 SERIES

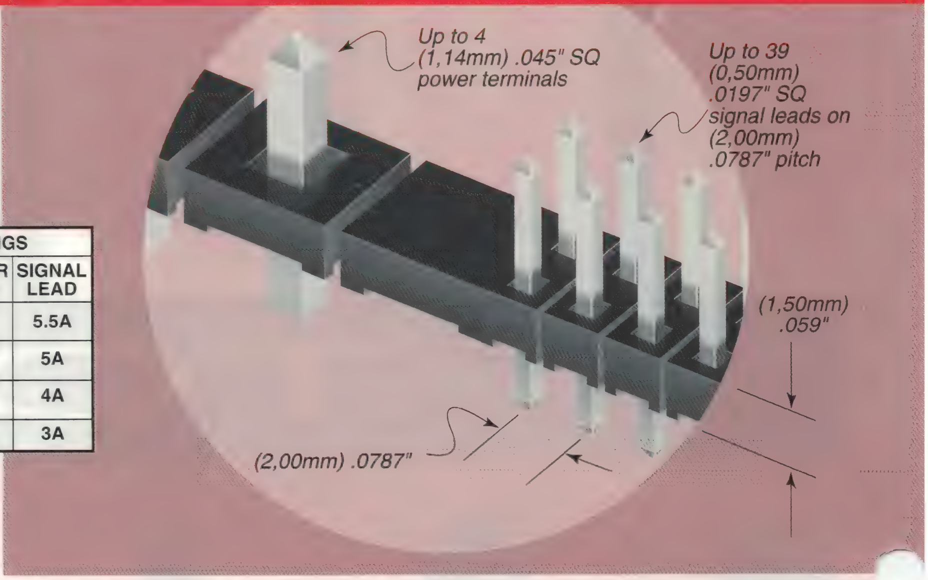
SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni on signal pins;
Sn over 50µ" (1,27µm) Ni on power pins

Mates with:
PCS2

CURRENT RATINGS		
AMBIENT TEMPERATURE	POWER LEAD	SIGNAL LEAD
20°C	14A	5.5A
40°C	12A	5A
60°C	10A	4A
80°C	7A	3A



Note:
Some lengths, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE iR THROUGH-HOLE

PCT2 – 1 NO. SIGNAL PINS PER ROW – 03 – SIGNAL PIN PLATING – D – NO. POWER PINS

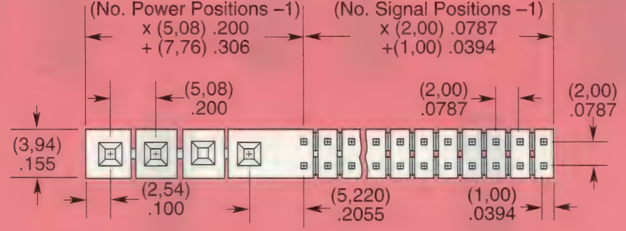
NO. SIGNAL PINS PER ROW: 01 thru 39

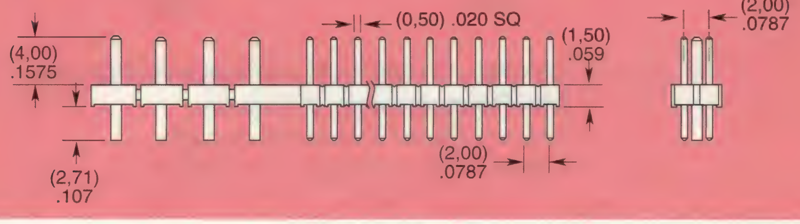
SIGNAL PIN PLATING:

–L
=10µ" (0,25µm) Gold contact area
150µ" (3,81µm) Tin tail

–F
=Gold flash on contact area
150µ" (3,81µm) Tin on tail

NO. POWER PINS: 01 thru 04





SUDDEN SPECS!
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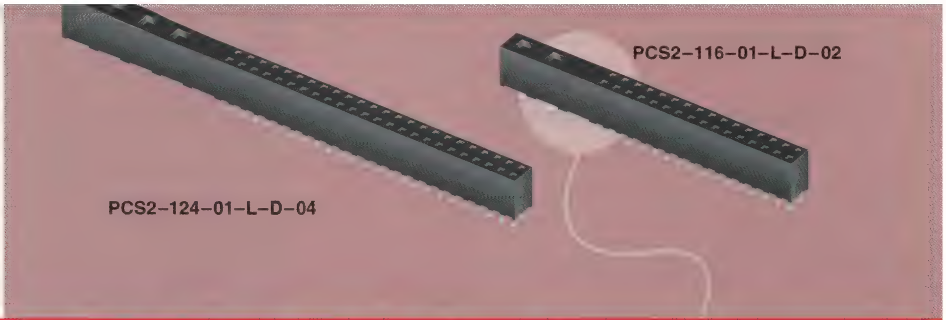

POWER COMBO SOCKET PCS2 SERIES

SPECIFICATIONS

Materials:

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C
Plating:
Sn or Au over 50µ" (1,27µm) Ni on signal pins; Sn over 50µ" (1,27µm) Ni on power pins
Contact Resistance:
10 mΩ max
Insertion Depth:
(2,62mm) .103" to (5,03mm) .198" with (0,38mm) .015" wipe
Max Cycles:
100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds

SMT COMPATIBLE THROUGH-HOLE

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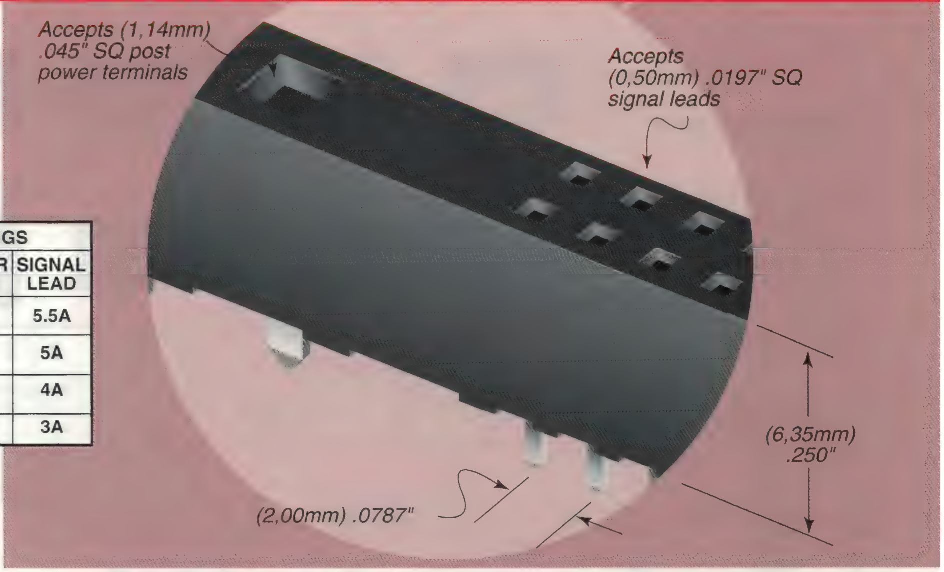
Mates with:
PCT2

CURRENT RATINGS		
AMBIENT TEMPERATURE	POWER LEAD	SIGNAL LEAD
20°C	14A	5.5A
40°C	12A	5A
60°C	10A	4A
80°C	7A	3A



PCS2 – 1 NO. SIGNAL PINS PER ROW – 01 – SIGNAL PIN PLATING – D – NO. POWER PINS

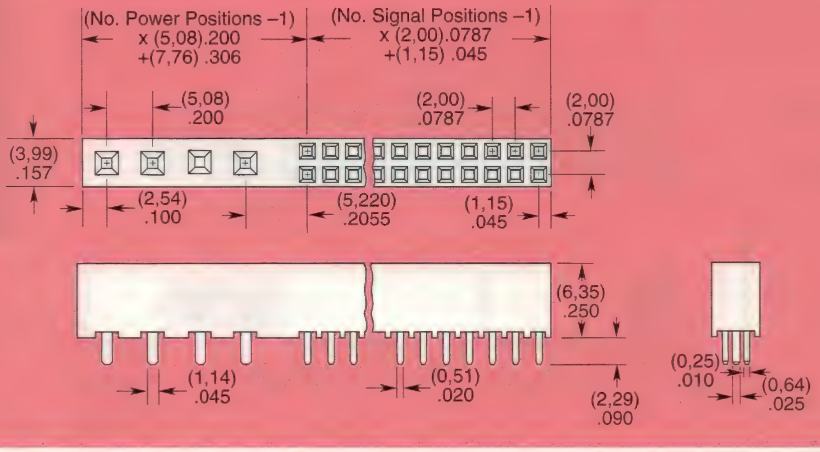
NO. SIGNAL PINS PER ROW: 01 thru 39

SIGNAL PIN PLATING:

–L =10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail

–F =Gold flash on contact 150µ" (3,81µm) Tin on tail

NO. POWER PINS: 01 thru 04



F-198-2

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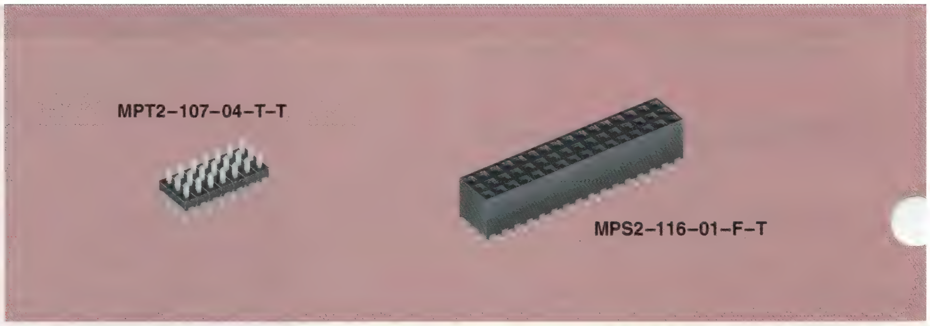
POPULAR CONNECTORS Ship Next DAY



2mm MINI-POWER MPT2, MPS2 SERIES

Mates with: MPS2

Specifications: MPT2

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C with Tin; -65°C to +125°C with Gold
Plating: Sn or Au over 50µ" (1,27µm) Ni

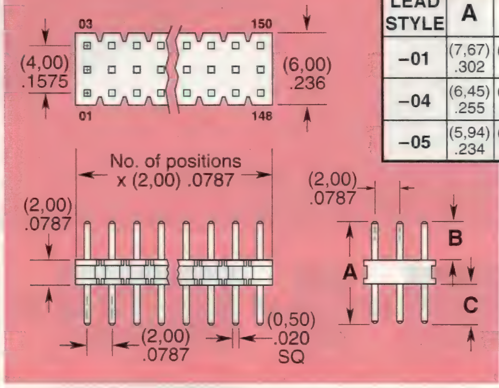
AMBIENT TEMPERATURE	CURRENT RATING
20°C	5.5A
40°C	5A
60°C	4A
80°C	3A

Note: Some lengths, styles and options are non-standard, non-returnable.

MPT2 – 1 NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – T – OTHER OPTION

01 thru 50

LEAD STYLE: Specify LEAD STYLE from chart



LEAD STYLE	A	B	C
–01	(7,67) .302	(3,20) .126	(2,46) .097
–04	(6,45) .255	(1,91) .075	(2,57) .101
–05	(5,94) .234	(1,65) .065	(2,29) .090

PLATING OPTION:

- **–G** = 20µ" (0,51µm) Gold post on contact area flash on tail
- **–T** = 150µ" (3,81µm) Tin
- **–S** = 30µ" (0,76µm) Gold on contact area 150µ" (3,81µm) Tin on tail
- **–L** = 10µ" (0,25µm) Gold on contact area 150µ" (3,81µm) Tin on tail

OTHER OPTION:

- **–"XXX"** = Polarized Position Specify position of omitted pin
- **–MW** = Metal Washers on Solder Tails (30 pins per row maximum)

Mates with: MPT2

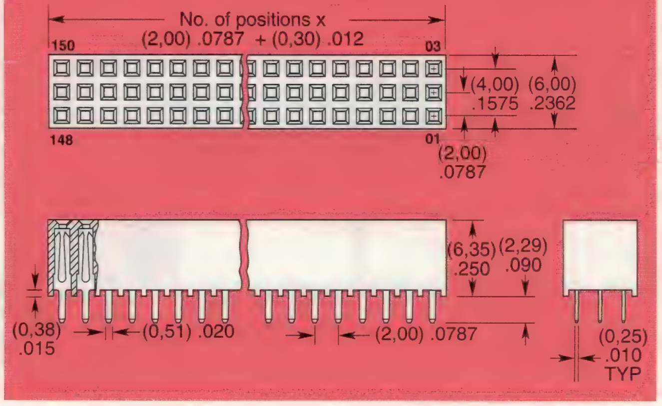
Specifications: MPS2

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -65°C to +105°C
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ max
Insertion Depth: (2,62mm) .103" to (5,03mm) .198" with (0,38mm) .015" wipe
Max Cycles: 100 with 10µ" (0,25µm) Au

Note: Some lengths, styles and options are non-standard, non-returnable.

MPS2 – 1 NO. PINS PER ROW – 01 – PLATING OPTION – T – OTHER OPTION

02 thru 50



PLATING OPTION:

- **–L** = 10µ" (0,25µm) Gold contact 150µ" (3,81µm) Tin tail
- **–F** = Gold flash on contact 150µ" (3,81µm) Tin on tail

OTHER OPTION:

- **–"XXX"** = Polarized Position Specify position of omitted pin

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Due to technical progress, all designs, specifications and components are subject to change without notice.

F-198-2

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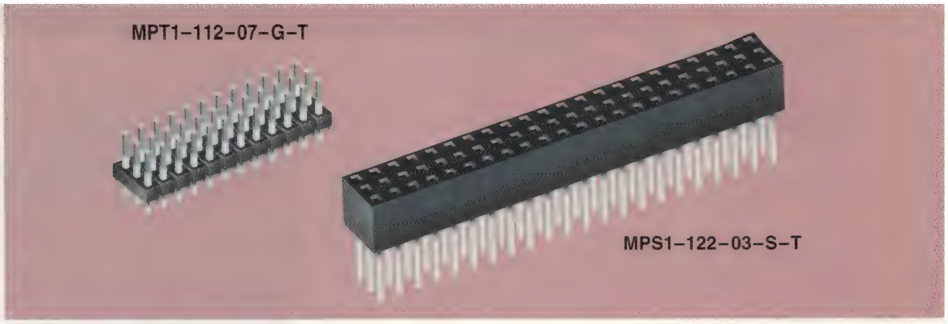
POPULAR CONNECTORS Ship Next DAY



.100" MINI-POWER MPT1, MPS1 SERIES

Mates with:
MPS1

Specifications: MPT1

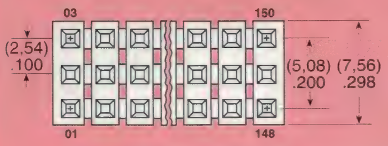
Insulator Material:
Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Max Processing Temp:
230°C for 30 to 60 seconds
Plating:
Au or Sn over 50µ" (1,27µm) Ni

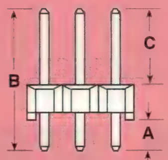
AMBIENT TEMPERATURE	CURRENT RATING
20°C	7A
40°C	6A
60°C	4A
80°C	3A

Note: Some lengths, styles and options are non-standard, non-returnable.

MPT1 – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – T – OTHER OPTION

01 thru 50





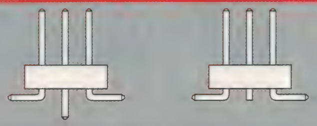
LEAD STYLE	A	B	C
–07	(2,54) .100	(10,92) .430	(5,84) .230
–08	(5,08) .200	(13,46) .530	
–14	(2,79) .110		(8,13) .320
–23	(2,92) .115	(11,30) .445	(5,84) .230

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin tail
- **–G** = 10µ" (0,25µm) Gold contact Gold flash on balance
- **–T** = 200µ" (5,08µm) Tin

OTHER OPTION:
- **–RA** = Right Angle (Leave blank for straight pin version)
- **–"XXX"** = Polarized (Specify "xxx" as position number)
- **–LL** = Locking Lead
- **–MW** = Metal Washers on Solder Tails (32 pins per row maximum)

ALSO AVAILABLE



Mixed technology & SMT designs available. Call Samtec.

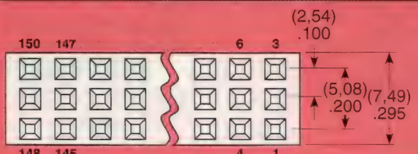
Mates with:
MPT1

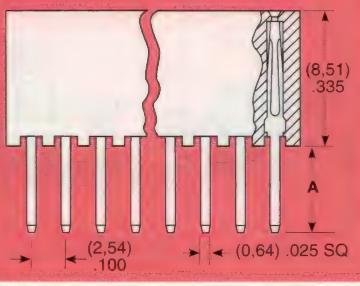
Specifications: MPS1

Insulator Material:
Black Thermoplastic
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Plating:
Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance:
10 mΩ max
Insertion Depth:
(3,68mm) .145" to (6,35mm) .250"
Insertion Force:
Standard= 6oz (1,67N) avg ((0,64mm) .025" SQ pin);
Low Insertion Force= 3.3oz (0,92N) avg
Normal Force:
Standard= 125 grams (4,4N)
Withdrawal Force:
Standard= 5oz (1,39N) avg ((0,64mm) .025" SQ pin);
Low Insertion Force= 2.9oz (0,81N) avg

MPS1 – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – T – OTHER OPTION

01 thru 50





LEAD STYLE		
Standard Insertion Force	Low Insertion Force*	A
–01	–21	(2,54) .100
–02	–22	(4,83) .190
–03	–23	(9,91) .390
–04	–24	(14,73) .580

* LIF N/A with Tin Plating

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:
- **–S** = 30µ" (0,76µm) Gold contact 200µ" (5,08µm) Tin tail
- **–T** = 200µ" (5,08µm) Tin
- **–G** = 20µ" (0,51µm) Gold contact Gold flash on balance

OTHER OPTION:
- **–RA** = Right Angle (Leave blank for straight pin version) Styles –02 & 22 only
- **–"XXX"** = Polarized (Specify "xxx" as position number)
- **–LL** = Locking Lead

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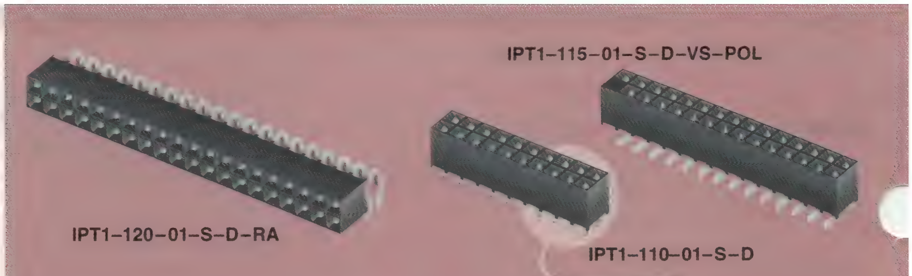
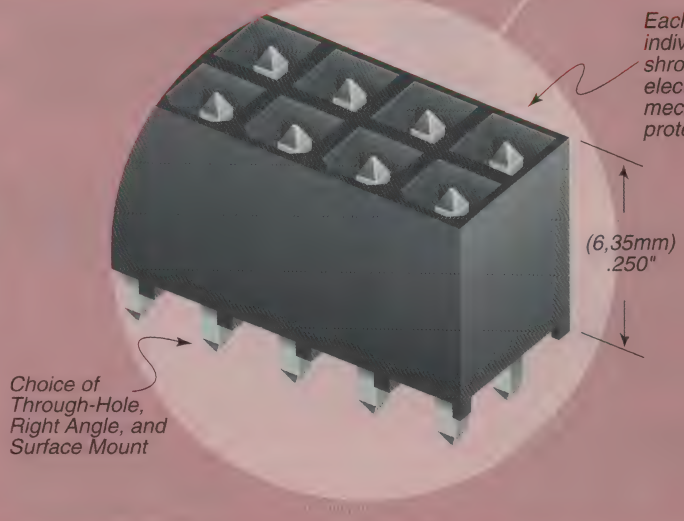


ISOLATED POWER TERMINAL IPT1 SERIES



SPECIFICATIONS

Materials:

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50μ" (1,27μm) Ni

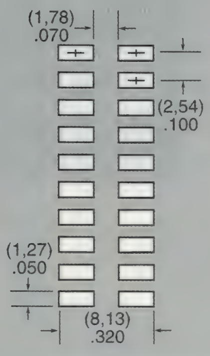
Mates with:
IPS1

AMBIENT TEMPERATURE	CURRENT RATING
20°C	7A
40°C	6A
60°C	4A
80°C	3A

Note:
Some sizes, styles and options are non-standard, non-returnable.

Processing:

Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,15mm) .006" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary



IPT1 – 1 NO. PINS PER ROW – 01 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION – POL OPTION

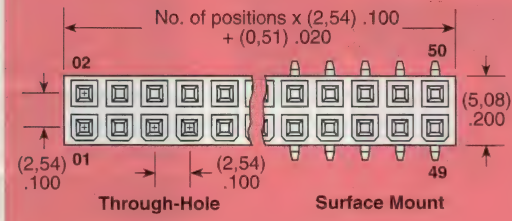
05, 10, 15, 20, 25 (Call Samtec for other sizes)

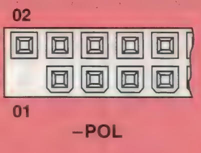
PLATING OPTION:
–S = 30μ" (0,76μm) Gold on contact 150μ" (3,81μm) Tin on Tail

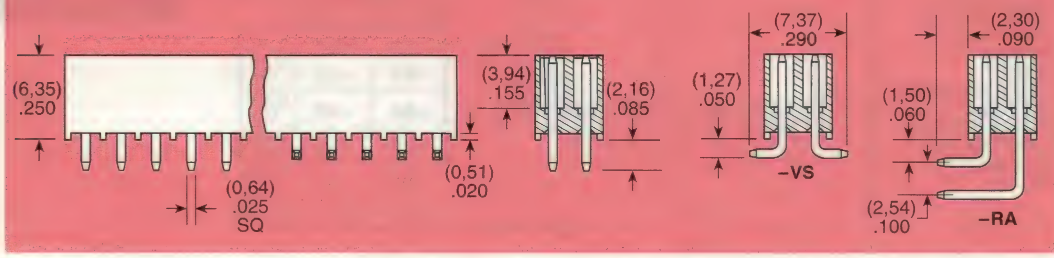
TAIL OPTION:
Leave blank for Through-Hole
–RA = Right Angle
–VS = Surface Mount

OTHER OPTION:
–A = Alignment Pin
–LC = Locking Clip
–K = (6,00mm) .236" DIA Polyimide film Pick & Place Pad

POL OPTION:
–POL = No. 1 position polarized







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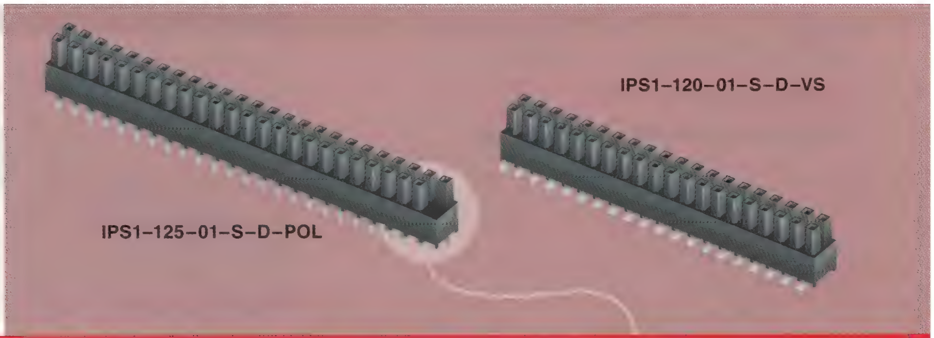


ISOLATED POWER SOCKET IPS1 SERIES

SPECIFICATIONS

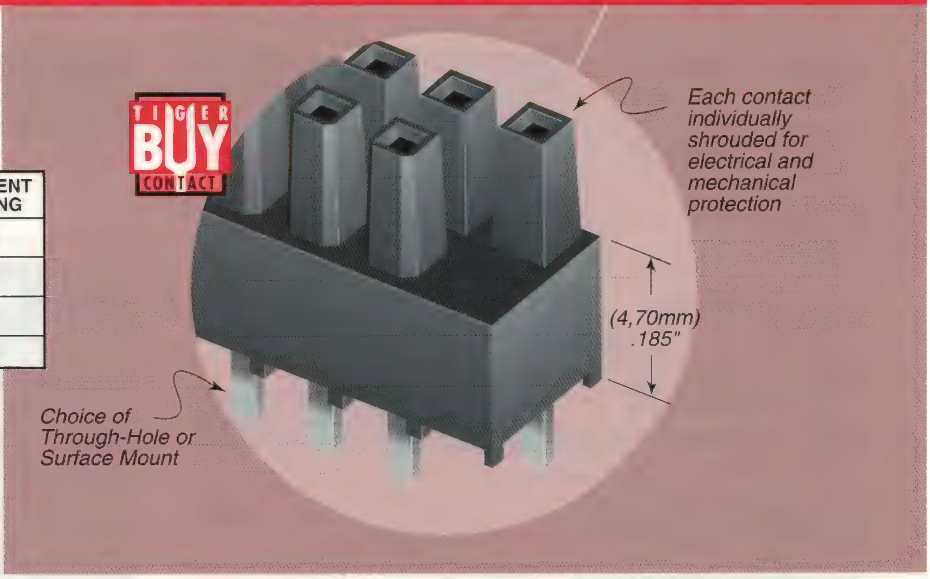
Materials:

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to +125°C with Gold
Plating:
Sn or Au over 50µ" (1,27µm) Ni
Insertion Force:
8.8oz (2,45N) avg
Withdrawal Force:
3.0oz (0,83N) avg

Note:
Some sizes, styles and options are non-standard, non-returnable.

Mates with:
IPT1

AMBIENT TEMPERATURE	CURRENT RATING
20°C	7A
40°C	6A
60°C	4A
80°C	3A



IPS1 – 1 NO. PINS PER ROW – 01 – PLATING OPTION – D – TAIL OPTION – POL OPTION

NO. PINS PER ROW: 05, 10, 15, 20, 25 (Call Samtec for other sizes)

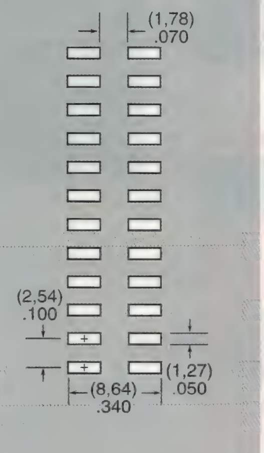
PLATING OPTION: –S = 30µ" (0,76µm) Gold on contact 150µ" (3,81µm) Tin on Tail

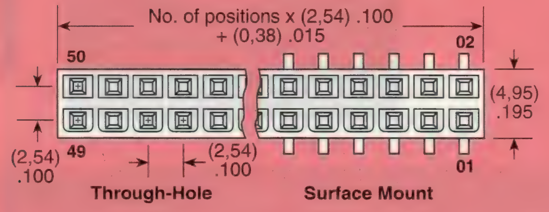
TAIL OPTION: Leave blank for Through-Hole; –VS = Surface Mount

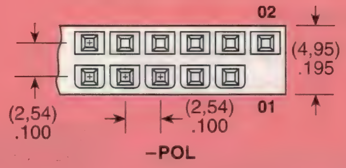
POL OPTION: –POL = No. 1 position polarized

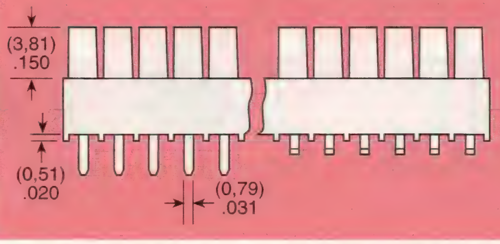
Processing:

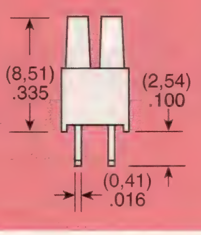
Max Processing Temp:
230°C for 60 seconds
SMT Lead Coplanarity:
(0,20mm) .008" max
Suggested Paste Thickness:
For most applications add (0,05mm) .002" to max SMT lead coplanarity
Suggested PCB Layouts:
Your specific layout may vary

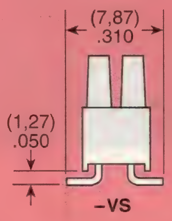












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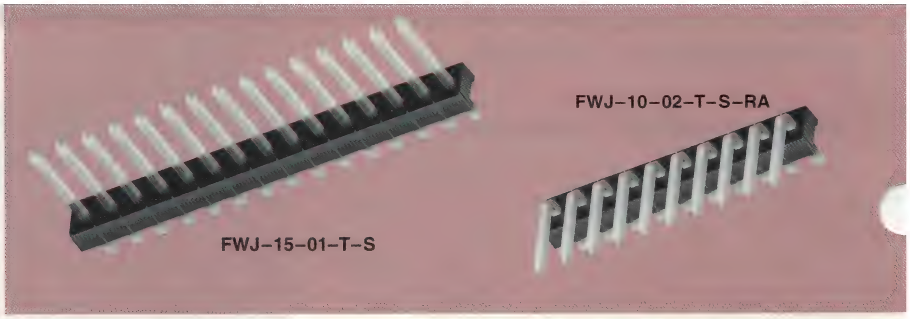


.045" SQ POST/.156" PITCH FWJ, HFWJ, JW SERIES

Specifications: FWJ

Insulator Material: Black Glass Filled Polyester
Operating Temp Range: -65°C to +105°C
Terminal Material: Phosphor Bronze
Plating: Sn over 50µ" (1,27µm) Ni

Specifications: HFWJ

Same as FWJ except:
Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 60 sec.

SMT COMPATIBLE IR THROUGH-HOLE

AMBIENT TEMPERATURE	CURRENT RATING
20°C	15A
40°C	13A
60°C	11A
80°C	8A

Note: Some lengths, styles and options are non-standard, non-returnable.

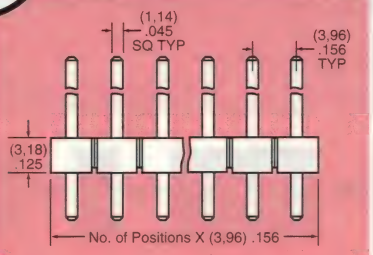
TYPE STRIP – NO. PINS PER ROW – LEAD STYLE – T – S – TAIL OPTION

TYPE STRIP

FWJ = Standard Header

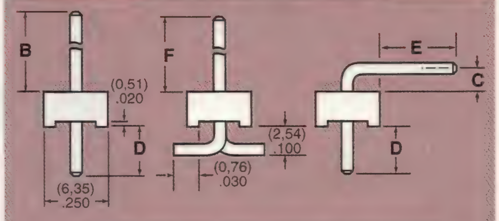
HFWJ = High Temp Header

01 thru 24



LEAD STYLE

Specify LEAD STYLE from chart below.



LEAD STYLE	B	C	D	E	F
–01	(11,43) .450	N/A	(4,45) .175	N/A	(10,46) .412
–02	(12,70) .500	(2,54) .100		(7,49) .295	(11,73) .462
–04	(20,55) .809	(4,95) .195	(3,96) .156	(12,93) .509	N/A

TAIL OPTION

Leave blank for Through-Hole

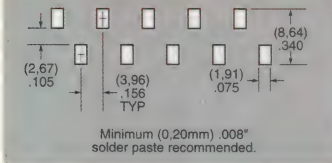
– RA = Right Angle (Style –01 not available)

–VS = Surface Mount Requires HFWJ (2 pins/row minimum) Style –04 not available.

Specifications: JW

Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 60 sec.
Terminal Material: Phosphor Bronze
Plating: Sn over 50µ" (1,27µm) Ni

SUGGESTED PCB LAYOUT
(Your specific layout may vary)



Note: This Series is non-standard, non-returnable.

JW – NO. PINS PER ROW – 04 – T – S – STACKER HEIGHT – POST HEIGHT – TAIL OPTION

02 thru 24

STACKER HEIGHT

–"XXX" = Stacker Height (in inches) (0,13mm) .005" increments

Example: –250 = (6,35mm) .250"

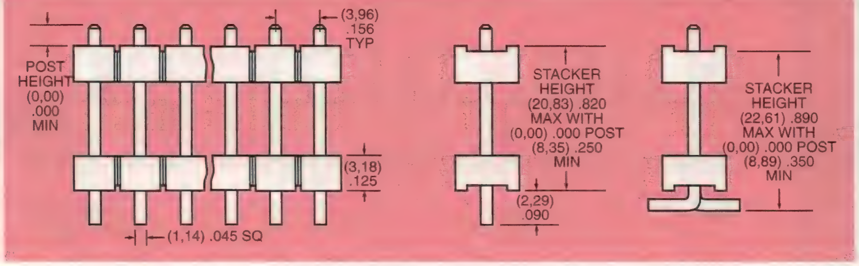
POST HEIGHT

–"XXX" = Post Height (in inches)

TAIL OPTION

Leave blank for Through-Hole

–VS = Surface Mount (2 pins/row minimum)



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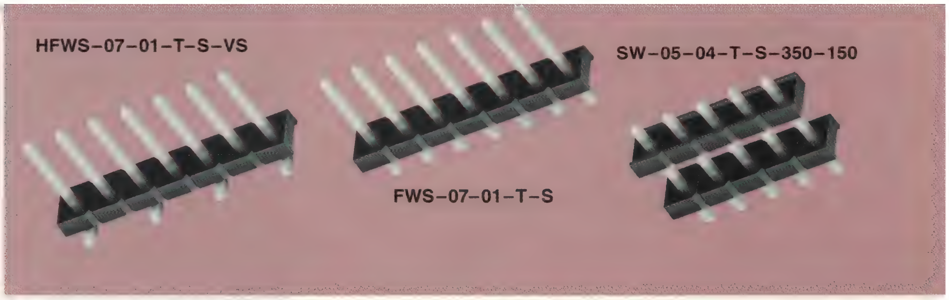


.045"SQ POST/.200" PITCH FWS, HFWS, SW SERIES

Mates with:
PSS

Specifications: FWS

Insulator Material: Black Glass Filled Polyester
Operating Temp Range: -65°C to +105°C
Terminal Material: Phosphor Bronze
Plating: Sn over 50μ" (1,27μm) Ni

Specifications: HFWS

Same as FWS except:
Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 60 sec.

SMT COMPATIBLE IR THROUGH-HOLE

AMBIENT TEMPERATURE	CURRENT RATING
20°C	14A
40°C	12A
60°C	10A
80°C	7A

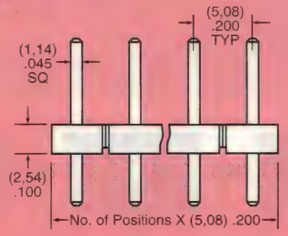
Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – LEAD STYLE – T – S – TAIL OPTION

FWS = Standard Header

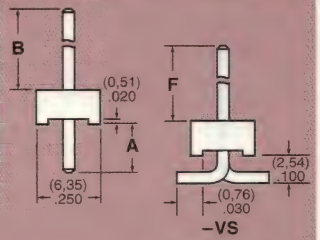
HFWS = High Temp Header

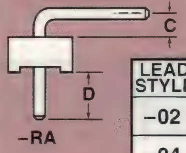
01 thru 20



Specify LEAD STYLE from chart below.

LEAD STYLE	A	B
-01	(4,57) .180	(11,94) .470
-02	(4,57) .180	(13,21) .520
-04	(4,09) .161	(21,06) .829
-05	(4,57) .180	(3,81) .150





LEAD STYLE	C	D
-02	(2,54) .100	(4,45) .175
-04	(4,95) .195	(3,96) .156

LEAD STYLE	F
-01	(10,72) .422
-02	(12,24) .482

Leave blank for Through-Hole

–RA = Right Angle

–VS = Surface Mount (2 pins/row minimum) Requires HFWS

Mates with:
PSS

Specifications: SW

Insulator Material: Natural Liquid Crystal Polymer
Max Processing Temp: 230°C for 60 sec.
Terminal Material: Phosphor Bronze
Plating: Sn over 50μ" (1,27μm) Ni

SW – NO. PINS PER ROW – 04 – T – S – STACKER HEIGHT – POST HEIGHT – TAIL OPTION

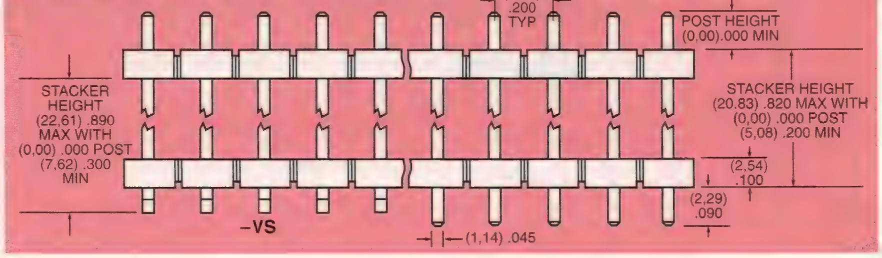
–"XXX" = Stacker Height (in inches) (0,13mm) .005" increments
Example: –250 = (6,35mm) .250"

–"XXX" = Post Height (in inches)

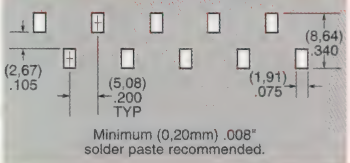
Leave blank for Through-Hole

–VS = Surface Mount (2 pins/row minimum)

02 thru 20



SUGGESTED PCB LAYOUT
(Your specific layout may vary)



Note: This Series is non-standard, non-returnable.

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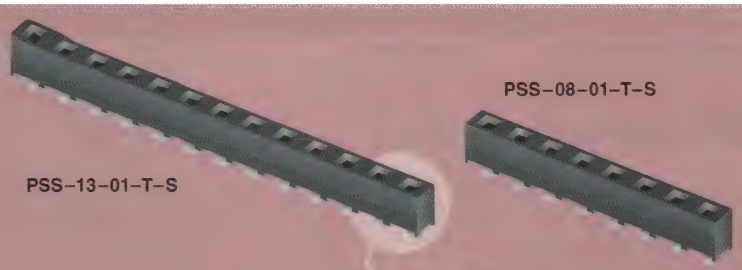


.045"SQ POST/.200" PITCH PSS SERIES

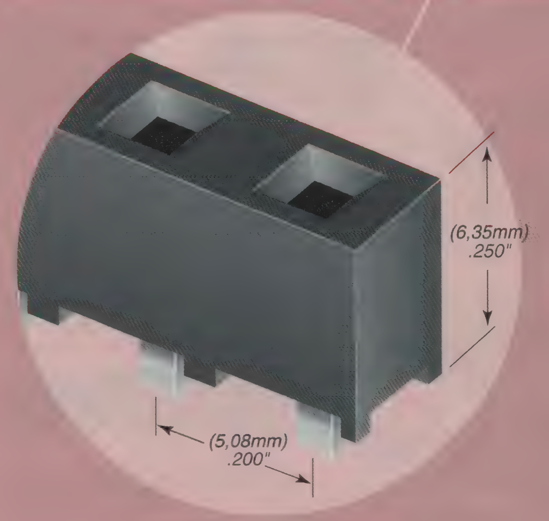
SPECIFICATIONS

Materials:

Insulator Material:
Black LCP
Max Processing Temp:
230°C for 60 sec.
Contact Material:
Phosphor Bronze
Plating:
Sn over 50µ" (1,27µm) Ni
Insertion Depth:
(2,62mm) .103" to
(5,03mm) .198"

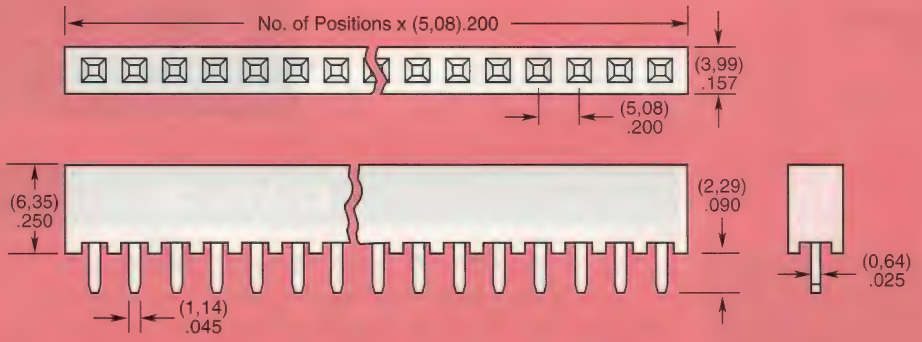
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
FWS, HFWS, SW



PSS – NO. PINS PER ROW – 01 – T – S

02 thru 20



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CABLE

INTERFACES

(2,54mm) .100" Pitch 158-159
(2,00mm) .0787" Pitch 160-161
(1,27mm) .050" Pitch 162
Flex Cable Interfaces 163

F-198-2

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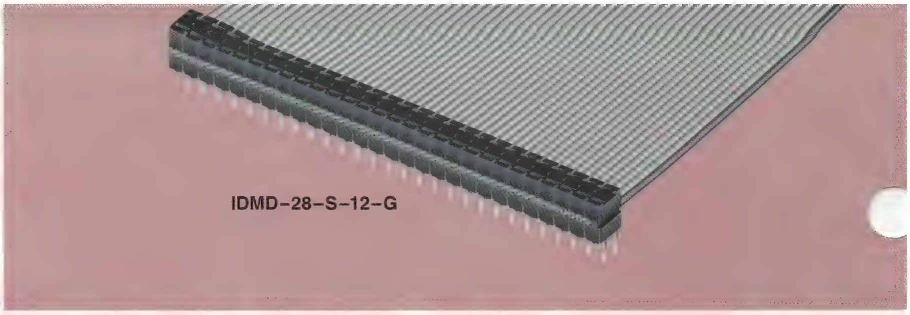
POPULAR CONNECTORS Ship in 3 DAYS



IDC CABLE STRIPS IDMS, IDMD, IDSS & IDSD SERIES

Specifications: IDSS, IDSD

Insulator Material:
Black Glass Filled Polyester
Temperature Range:
-65°C to +80°C
Contact:
BeCu
Plating:
Au over 50µ" (1,27µm) Ni or Sn over 100µ" (2,54µm) Cu or 50µ" (1,27µm) Ni
Current Rating:
1A
Contact Resistance:
10 mΩ max
Lead Size Range:
(0,56mm) .022" SQ to (0,71mm) .028" SQ
Lead Insertion Depth:
(5,59mm) .220" to (6,22mm) .245"
Insertion Force:
4oz avg ((0,63mm) .025" SQ probe)
Withdrawal Force:
3oz avg ((0,63mm) .025" SQ probe)
Wire:
28 AWG 7/36 stranded Tinned Copper

Specifications: IDMS, IDMD

Insulator Material:
Black Glass Filled Polyester
Temperature Range:
-65°C to +80°C
Terminal:
Phosphor Bronze
Plating:
Au over 50µ" (1,27µm) Ni or Sn over 100µ" (2,54µm) Cu or 50µ" (1,27µm) Ni
Current Rating:
1A
Wire:
28 AWG 7/36 stranded Tinned Copper

Note:
This Series is non-standard, non-returnable.

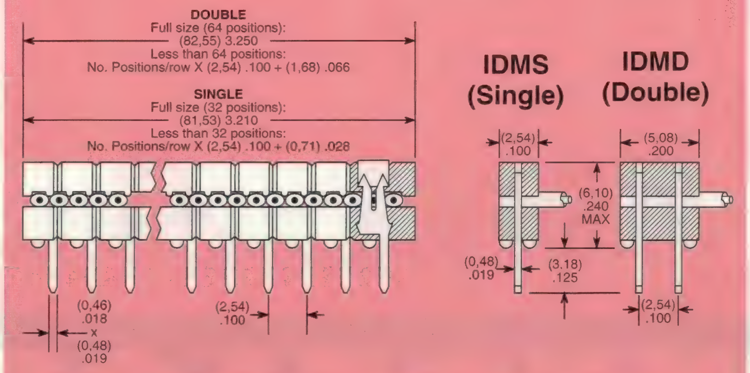
Mates with:
TSW, MTSW, BST, LCW

TYPE STRIP	ROW OPTION	–	NO. PINS PER ROW	–	END ASSEMBLY	–

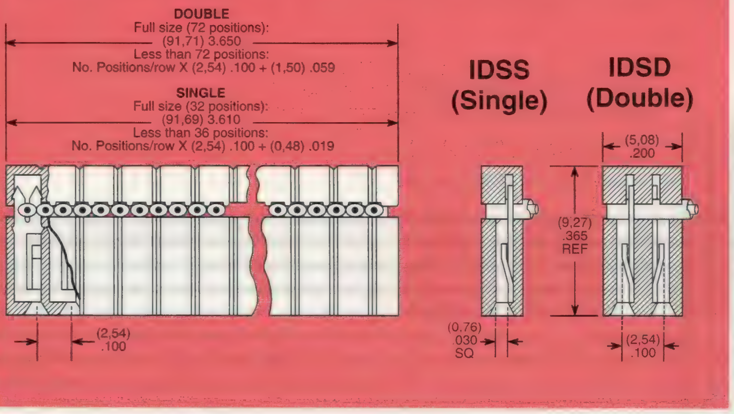
TYPE STRIP:
IDM = Standard Tail Male Plug
IDS = Socket

ROW OPTION:
S = Single
D = Double (Color coded cable N/A for 31 thru 36 pins/row. See –G option.)

–02 thru –32

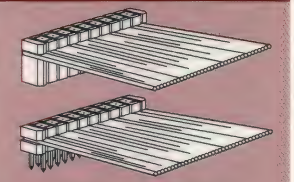


–02 thru –36



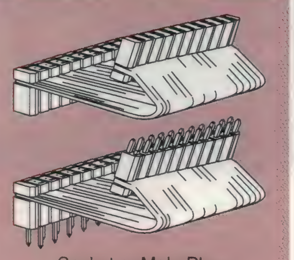
END ASSEMBLY:

–S = Single End



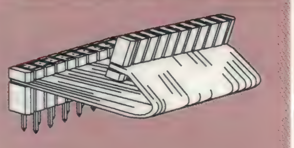
Socket or Male Plug on one end

–D = Double End



Socket or Male Plug on each end

–T = Transfer End



Male Plug on one end with socket on other. **Begin part number with IDM.**

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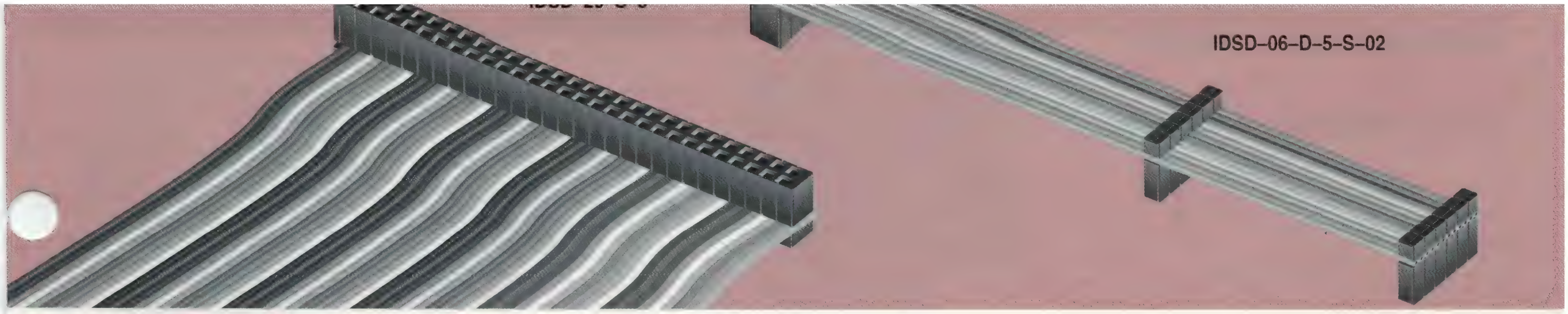
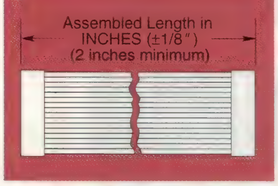
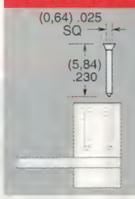


– ASSEMBLED LENGTH



– OPTION

POLARIZING KEY



Optional polarizing key for use with IDSS & IDSD Series. Also polarizes SSW, SSQ, ESW & ESQ Series. Black High Temperature Thermoplastic

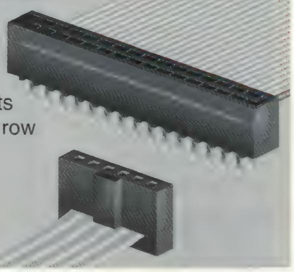
Order: Part Number PK-01-06

ALSO AVAILABLE

Molded-To-Position IDC Assembles

- Low Profile
- Skinny side locks
- Dual beam contacts
- Single and double row
- Many common sizes available

Call Samtec for HCXX Series.



–T = 150µ" (3,81µm) Tin Plating (Both ends)

–C = 150µ" (3,81µm) Tin IDM/ 10µ" (0,25µm) Gold IDS

–A = 10µ" (0,25µm) Gold IDM/ 150µ" (3,81µm) Tin IDS

Standard plating is selective gold over BeCu contact for IDS; Selective gold over phosphor bronze for IDM. 1

–P "XX"
=Polarized

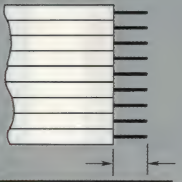
Specify "XX" as position. For Double the same position will be polarized on both ends. (Not available on IDM or EDM, unless Transfer, then only the socket is polarized) 2

–G
= Gray Cable

Specify –G for Gray cable. Gray cable has one red edge. IDSS uses .100" centerline cable. IDSD and IDMD uses .050" centerline cable. Cable is 28 AWG 7/36 copper wire. Standard cable is same as above except color coded. 3

–ST "X"
= Stripped & Tinned

Specify Suffix from table. All dimensions are ± 1/16". Not available in 28 positions and higher.

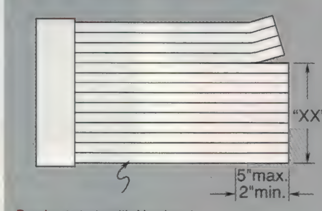


–ST8	1/8" (3,18)
–ST4	1/4" (6,35)
–ST2	1/2" (12,70)
–ST3	3/8" (9,53)

4

–B "XX"
= Breakout

Specify "XX" as number of conducts to be broken out.

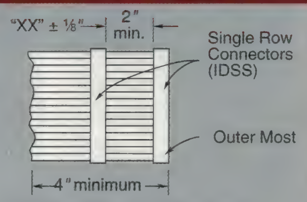


Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side. 5

–RW
= Reversed Wiring

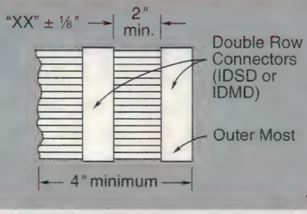
#1 wire opposite position #1. 6

–S "XX"
= Daisy Chain Single



When mating double row connector with two single row connectors, the outer most single will be connected to Conductor #1 and the inside single to Conductor #2. 7

–D "XX"
= Daisy Chain, Double

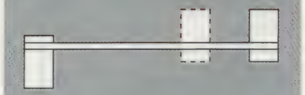


7

–W "XX"
= Wiring Reversed Daisy Chain, Single

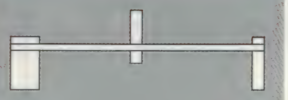
Same as –S "XX" except outer strip connected to Conductor #2 and inside strip connected to Conductor #1. 7

–R
= Reversed



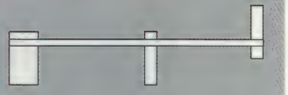
8

–M
= Middle Reversed



Requires –SXX, –WXX or –DXX 8

–O
= Outside Reversed



Requires –SXX, –WXX or –DXX 8

F-198-2

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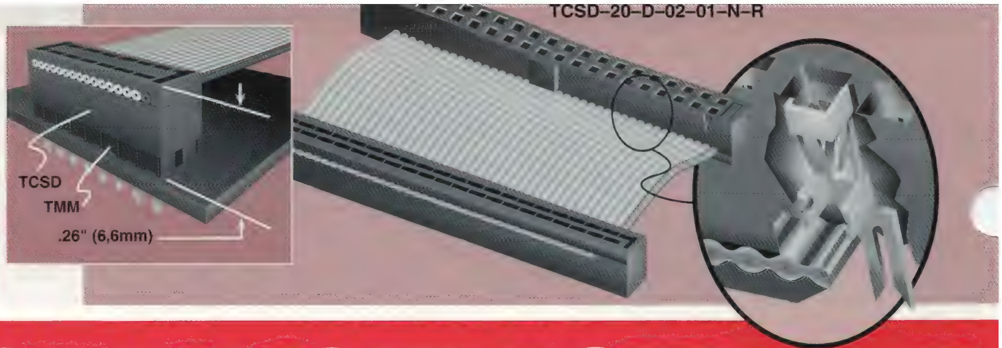
POPULAR CONNECTORS Ship in 7 DAYS



2mm IDC CABLE STRIPS TCSD SERIES

Mates with:
TMM, TMMH, STMM, MMT, TW, MTMM, EHT

Features:

- Low profile, only 5mm (.200") assembled height
- Four-finger contacts optimize normal, insertion and withdrawal forces
- Ask about our custom IDC design capabilities

Specifications:

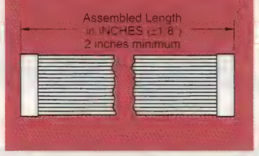
TCSD

Insulator Material:
Black Glass Filled Polyester
Contact:
BeCu
Current Rating:
1A
Operating Temp Range:
-40°C to +105°C
Plating:
Au or Sn over 50µ" (1,27µm) Ni
Lead Size Accepted:
.019" (0,48mm) to .021" (0,53mm)
Contact Resistance:
10 mΩ maximum
Insertion Depth:
.113"(2,87mm) to .125" (3,17mm)
Insertion Force:
2 oz. (0,56N) average
Withdrawal Force:
1.4 oz (0,39N) average
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator

TYPE STRIP – NO. PINS PER ROW – END OPTION – LENGTH – 01 – PLATING OPTION – N – OTHER OPTION

NO. PINS PER ROW
–05, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Call for other sizes)

LENGTH
–"XX" = Assembled Length

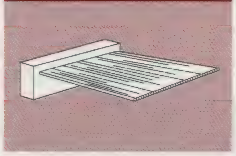


N
–N = Notch Polarization

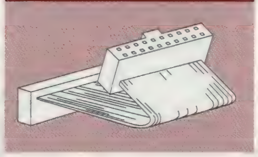
PLATING OPTION
–F = Gold flash on contact area, 150µ"(3,81µm) Tin on balance

Leave blank for standard plating: 30µ"(0,76µm) Gold on contact area 100µ" (2,54µm) Tin on balance

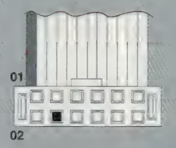
END OPTION
–S = Single End



–D = Double End



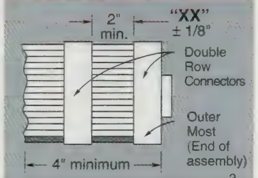
OTHER OPTION
–P "XX" = Position Polarization



Specify "XX" as position number. Same position will be polarized on both ends.

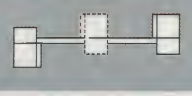
1

–D "XX" = Daisy Chain



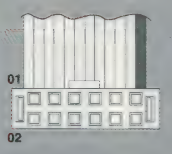
3

–R = Reversed



4

–RW = Reverse Wiring



Blue or black wire opposite position #1.

2

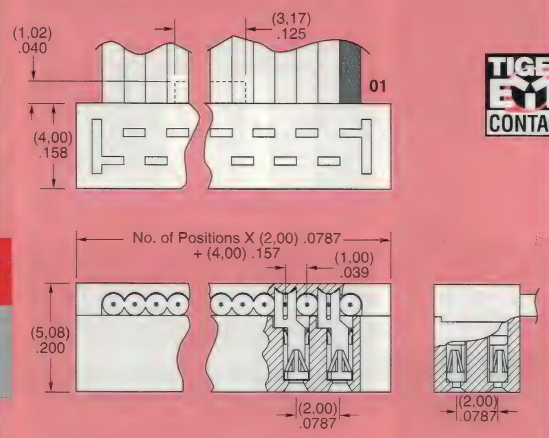
–M = Middle Reverse

Requires –DXX 4

–O = Outside Reverse

Requires –DXX 4

TYPE STRIP
TCSD = Socket Strip



TIGER EYE CONTACT

POLARIZING KEY
Specify PK-01-07 for polarizing key. Also polarizes SMM Series socket strips

Note: TCSD Series assemblies are non-standard, non-returnable.

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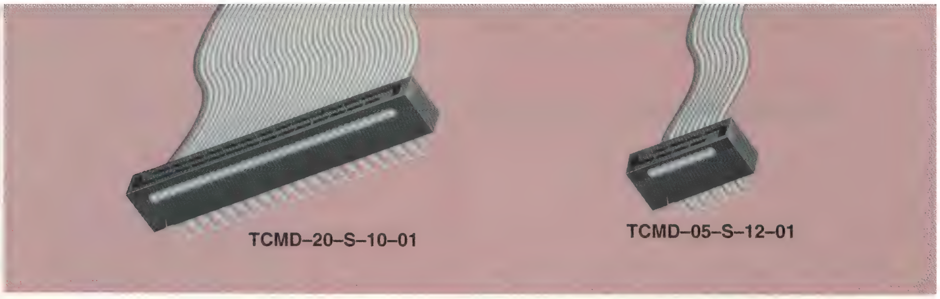
POPULAR CONNECTORS Ship in 7 DAYS



2mm IDC CABLE STRIPS TCMD SERIES

Mates with:
SMM, MMS

Features:

- Low profile, only 5mm (.200") assembled height
- Ask about our custom IDC design capabilities

Specifications:

TCMD

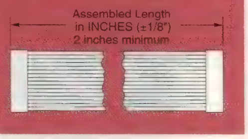
Insulator Material: Black Glass Filled Polyester
Terminal: Phospor Bronze
Current Rating: 1A
Plating: 150µ"(3,8µm) Sn over 50µ" (1,27µm) Ni
Operating Temp Range: -40°C to +105°C
Wire: 28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator

Note: TCMD Series assemblies are non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – OPTION

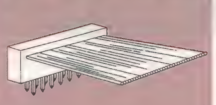
NO. PINS PER ROW: –05, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Call for other sizes)

OVERALL LENGTH: –"XX" = Assembled Length

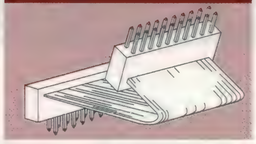


END OPTION:

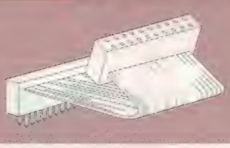
–S = Single End



–D = Double End

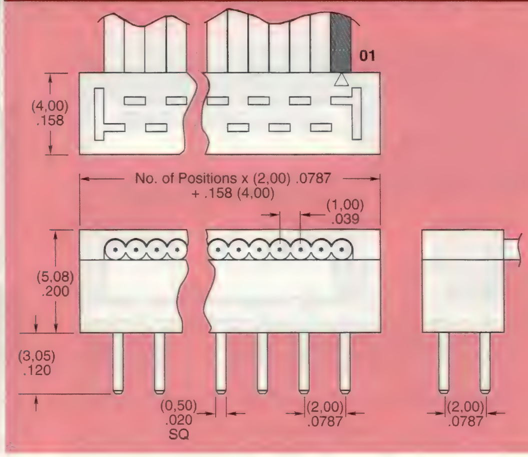


–T = Transfer End



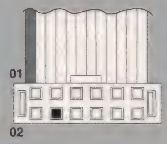
TYPE STRIP:

TCMD = Terminal Strip



OPTION:

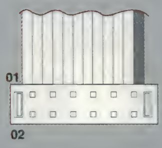
–P "XX" = Position Polarization



Specify "XX" as position number. Requires Transfer End. Only Socket is polarized.

1

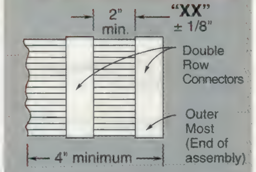
–RW = Reverse Wiring



Blue or black wire opposite position #1.

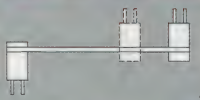
2

–D "XX" = Daisy Chain



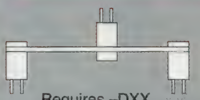
3

–R = Reversed



4

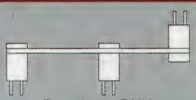
–M = Middle Reverse



Requires –DXX

4

–O = Outside Reverse



Requires –DXX

4

F-198-2

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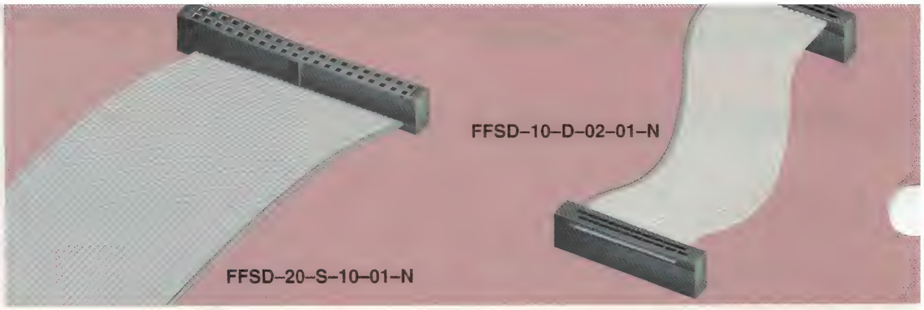
POPULAR CONNECTORS Ship in 7 DAYS



.050" (1,27mm) CABLE STRIPS FFSD SERIES

Mates with:
FTS, FTSH

Features:

- Four-finger contacts optimize normal, insertion and withdrawal forces
- Low profile, only 5mm (.200") assembled height
- Mating terminal strip with keying shroud available (FTSH Series)
- Other sizes available.

Specifications:

FFSD

Insulator Material:
Black Glass Filled Polyester
Contact:
BeCu
Current Rating:
0.5A
Operating Temp Range:
-40°C to +105°C
Plating:
10μ" (0,25μm) Au over 50μ" (1,27μm) Ni on contact area; 150μ" (3,81μm) Sn over 50μ" (1,27μm) Ni on balance
Lead Size Accepted:
.016" (0,41mm) SQ
Contact Resistance:
10 mΩ maximum
Insertion Depth:
.104"(2,64mm) to .125" (3,17mm)
Wire:
30 AWG

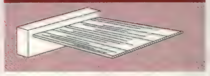
See FTSH Series for mating header with keying shroud

Note: This Series is non-standard, non-returnable.

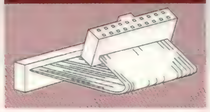
TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – N – OTHER OPTION

–05, –10, –13, –20, –25
(Call for other sizes)

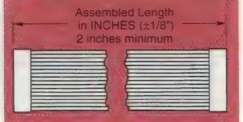
–S = Single End



–D = Double End

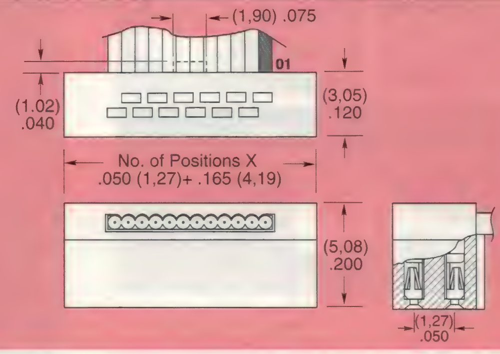


–"XX" = Assembled Length



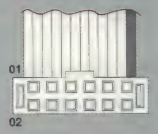
–N = Notch Polarization

FFSD = Socket Strip



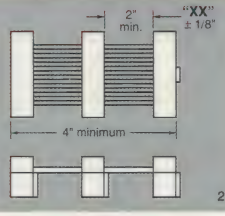
TIGER EYE CONTACT

–RW = Reverse Wiring



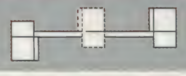
Blue or black wire opposite position #1. 1

–D "XX" = Daisy Chain



2

–R = Reversed



3

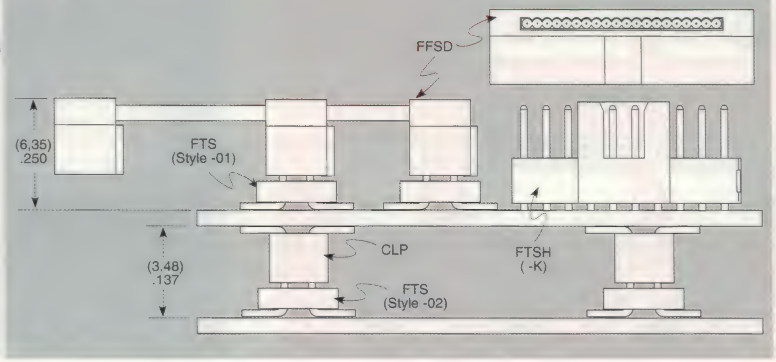
–M = Middle Reverse

Requires –DXX 3

–O = Outside Reverse

Requires –DXX 3

APPLICATIONS



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Due to technical progress, all designs, specifications and components are subject to change without notice.

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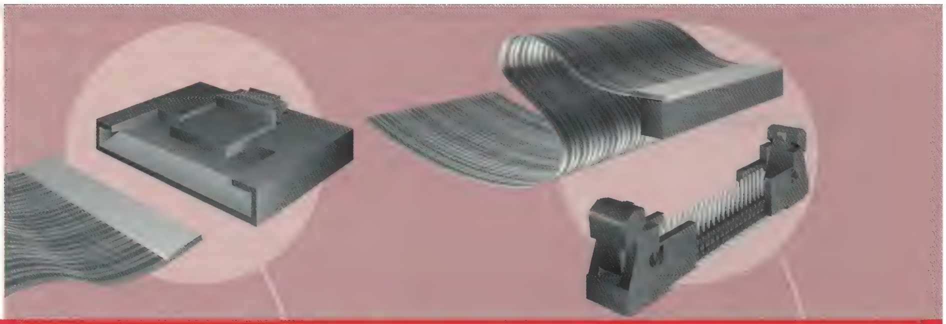
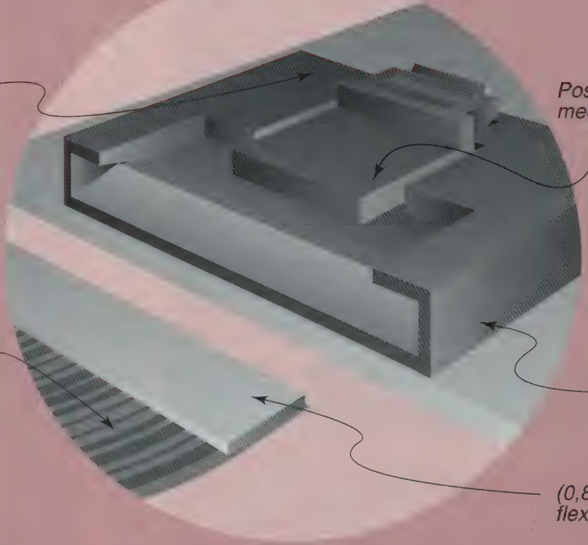


FLEX CABLE INTERFACES

DIRECT INTERFACE (FC1 SERIES)

- Direct interface with flex cable with stiffener
- (1,00mm) .0394" pitch
- 20 to 50 positions
- Positive locking mechanism retains flex cable in connectors
- Available Summer 1999



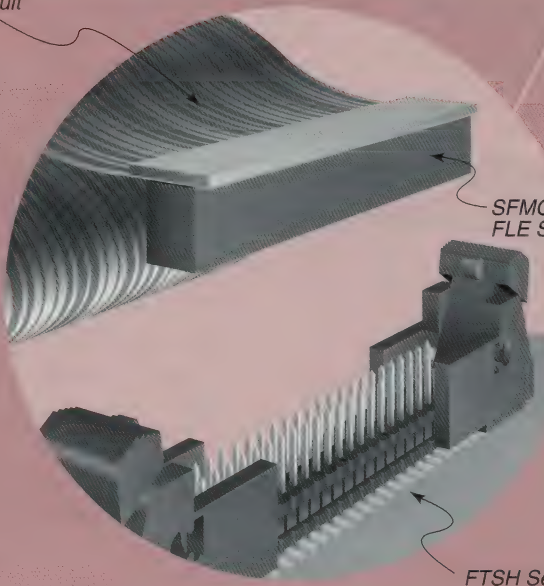
PIN & SOCKET INTERFACES

Flex Lock

- New "Flex Lock" feature for positive alignment of flex cable to socket and stiffener
- Call for SFLX Series

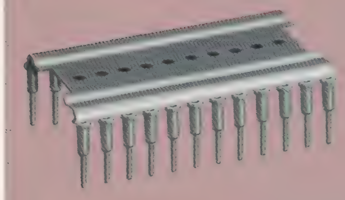
Standard Sockets & Ejector Cables

- Choice of two (1,27mm) .050" pitch sockets mounted to flex cable with stiffener mates with FTSH ejector headers
- High reliability Tiger-Eye SFMC Series
- Cost-effective Tiger-Beam FLE Series
- Surface mount connectors with other pitches available



ALSO AVAILABLE

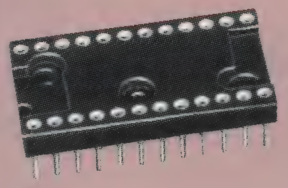
SOCKET CARRIERS



Samtec disposable aluminum carriers are available in common DIP pinouts from 14 to 40 leads for direct mounting of sockets to the PCB without a plastic body. Choice of many lead types from low profile to standard designs.

Request **ALC** Series FactsSheet.

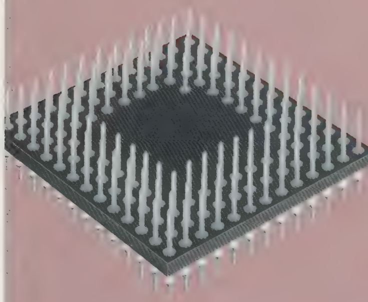
IC SOCKETS



Older style screw mount DIP sockets are available with pin counts from 6 through 64 and a choice of traditional printed circuit style contacts, wire-wrap styles or elevated designs.

Request **IC/ICS** Series FactsSheet.

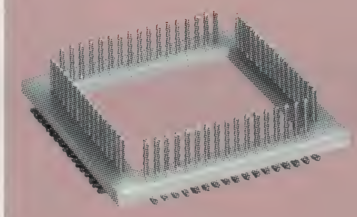
PGA ADAPTORS



Most Samtec PGA sockets are available as a mating adaptor with terminals replacing the lead sockets. A choice of many different terminal styles and insulators makes it easy to specify the right adaptor for each application.

Request **MPAT** Series FactsSheet.

PLCC ADAPTORS



Samtec adaptors are available to mate with all common PLCC sockets. They use precision drawn Phosphor Bronze wire with a choice of surface mount or through-hole tails.

Request **PLCA** Series FactsSheet.

LOOSE LEADS AND TERMINALS

Samtec precision machined lead sockets and terminals can be supplied as loose leads. All common standard leads and terminals are available as well as many specialty leads and terminals not shown in this catalog.

Request **SC/T** Series FactsSheets.

RECOMMENDED PC HOLE SIZE:

LEAD SIZE	HOLE SIZE
(0,46) .018 DIA	(0,61) .024 DIA
(0,51) .020 DIA	(0,66) .026 DIA
(0,64) .025 DIA	(0,79) .031 DIA
(0,76) .030 DIA	(0,91) .036 DIA
(0,89) .035 DIA	(1,04) .041 DIA
(1,14) .045 DIA	(1,30) .051 DIA
(1,32) .052 DIA	(1,47) .058 DIA
(0,41) .016 SQ	(0,71) .028 DIA
(0,46) .018 SQ	(0,76) .030 DIA
(0,51) .020 SQ	(0,81) .032 DIA
(0,64) .025 SQ	(1,02) .040 DIA
(1,14) .045 SQ	(1,75) .069 DIA
(0,13) .005 x (0,41) .016	(0,56) .022 DIA
(0,20) .008 x (0,71) .028	(0,89) .035 DIA
(0,25) .010 x (0,36) .014	(0,56) .022 DIA
(0,25) .010 x (0,51) .020	(0,71) .028 DIA
(0,41) .016 x (0,51) .020	(0,79) .031 DIA
(0,41) .016 x (0,61) .024	(0,89) .035 DIA
(0,41) .016 x (0,79) .031	(1,04) .041 DIA

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SOCKETS & ADAPTORS

Pin Grid Array Sockets 166-167
IC Sockets & DIP Adaptors 168-172
PLCC Sockets 173
Other Sockets and Adaptors 164

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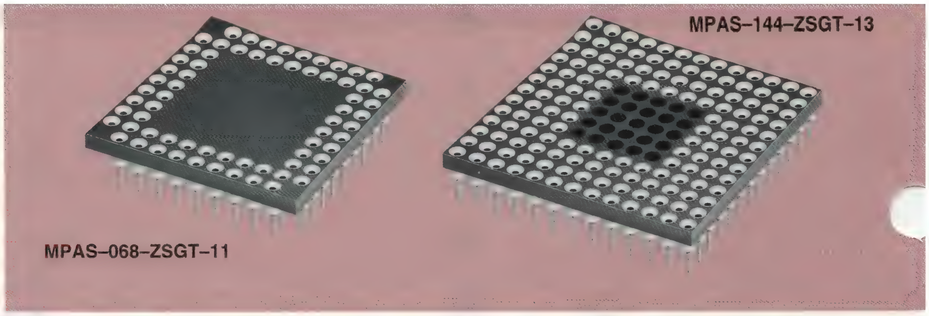
POPULAR CONNECTORS Ship Next DAY

Except MSAS 3 days.



PIN GRID ARRAY SOCKETS MPAS, MVAS, MHAS, MSAS

Mates with:
MPAT, MVAT, MHAT, MSAT

Specifications: MPAS, MVAS

Insulator Material: Black Glass Filled Polyester
Operating Temp Range: -65°C to +105°C with Tin; -65°C to + 125°C with Gold
Plating: Au over 50μ" (1,27μm) Ni or Sn over 100μ" (2,58μm) Cu or 50μ" (1,27μm) Ni
Current Rating: 1A
Contact: BeCu
Shell: Brass except Style K Phospher Bronze
Contact Resistance: 10mΩ max
Lead Size Range: .015" (0,38mm) to .022" (0,56mm) DIA except Style ZL =.015" (0,38mm) to .020" (0,51mm) DIA; ZM =.016" (0,41mm) to .021" (0,53mm) DIA; ZN =.016" (0,41mm) to .020" (0,51mm) DIA
Insertion Force: Style ZU = 1.5oz (0,42N) max, all others = 2.5 oz (0,69N) avg, 5.5 oz (1,53N) max, except Styles J & K = 9 oz (2,50N) avg, 16 oz (4,45N) max
Withdrawal Force: Style ZU = 1.5oz (0,42N) max, all others 2.0 oz (0,56N) avg, 0.35 oz (0,97N) min except Styles J & K = 2.5 oz (0,69N) avg, 1.5 oz (0,42N) min

Specifications: MSAS

Same as MPAS except:
Insulator Material: Black Liquid Crystal Polymer
Max Processing Temp: 230°C for 30 to 60 seconds

Specifications: MHAS

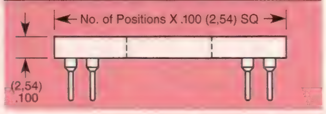
Same as MPAS except:
Insulator Material: Black High Temp. Plastic

Note: Some sizes, styles and options are non-standard, non-returnable.

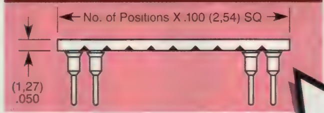
BODY STYLE – PIN COUNT – LEAD STYLE PLATING OPTION – PIN OUT CODE – OPTION

BODY STYLE

MPAS = Standard Polyester
MVAS = Open Body Polyester
MSAS = Hi-Temp LCP Open Body



MHAS = Low Profile



New! Ultra-LIF
1.5oz (0,42N) Max Insertion Force
45g (0,44N) Normal Force
Specify Style –ZU

PIN COUNT

–"XXX" = Total Number Of Filled Positions

PLATING OPTION

GG = 30μ" (0,76μm) Gold Contact 10μ" (0,25μm) Gold Shell

GT = 30μ" (0,76μm) Gold Contact 200μ" (5,08μm) Tin Shell

TT = 200μ"(5,08μm) Tin Contact and Shell (Styles –ZS & ZW Only)

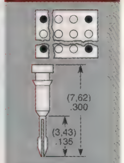
ST = 10μ" (5,08μm) Gold Contact 200μ" (5,08μm) Tin Shell (Style –ZS only)

OPTION

–2 = (9,14).360 Wire-Wrap (–ZW Only)

–3 = (6,60).260 Wire-Wrap (–ZW Only)

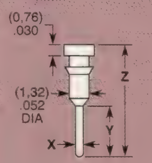
–L = Locking Socket (–ZS Only)



Requires GT Plating Option

–ZS, –ZU, –ZA, –J, –K = Printed Circuit

Locking lead (–L) available. See OPTION.

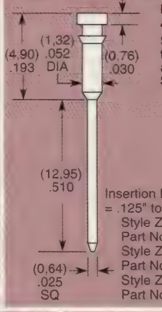


LEAD STYLE	X DIA	Y TAIL	Z OAL
–ZS, –ZU	(0,51) .020	(3,18) .125	(7,62) .300
–ZA	(0,51) .020	(4,57) .180	(8,89) .350
–J	(0,64) .025	(10,41) .410	(15,24) .600
–K	(0,89) .035	(12,95) .510	(17,86) .703

Insertion Depth = .095" to .145",
Style ZS Component Part No. = EZ-1P1
Style ZA Component Part No. = EZ-6P1
Option L Component Part No. = SC-1L1 or EZ-1L1
Insertion Depth = .095" to .138",
Style J Component Part No. = SC-1P3
Insertion Depth = .095" to .157".
Style K Component Part No. = SC-2P1

Styles J & K = 16 oz/pin insertion force

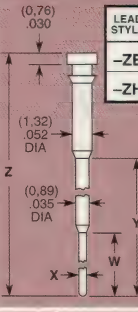
–ZW = Wire-Wrap



MHAS NOT AVAILABLE
Shorter w/w tail lengths available. See OPTION.

Insertion Depth = .125" to .157"
Style ZW Component Part No. = EZ-1W1(1)
Style ZW-2 Component Part No. = EZ-1W1(2)
Style ZW-3 Component Part No. = EZ-1W1(3)

–ZE or –ZH = Elevated

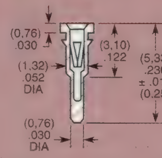


LEAD STYLE	X DIA	W TAIL	Y	Z OAL
–ZE	(0,51) .020	(4,32) .170	(8,86) .349	(13,77) .542
–ZH	(0,46) .018	(3,81) .150	(12,95) .510	(17,86) .703

MHAS NOT AVAILABLE

Insertion Depth = .125" to .170"
Style ZE Component Part No. = EZ-2P3
Insertion Depth = .125" to .145"
Style ZH Component Part No. = EZ-2P2

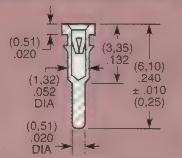
–ZL = Low Profile



Insertion Depth =.105" to .170"
Component No.= EZ-3F1

–ZM = Low Profile

MHAS & CHAS SERIES ONLY.

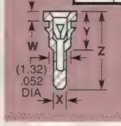


Insertion Depth =.080" to .105"
Component No.= EZ-4P1

–ZN or ZC = Micro Socket

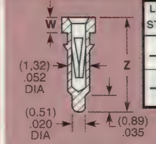
MHAS & CHAS SERIES ONLY.

LEAD STYLE	X DIA	W HEAD	Y	Z OAL
–ZN	(0,76) .030	(0,51) .020	(2,41) .095	(4,83) .190
–ZC	(0,74) .029	(0,25) .010	(2,11) .083	(4,19) .165



ZN Insertion Depth =.080" to .150"
ZN Component No = EZ-5P1
ZC Insertion Depth =.080" to .140"
ZC Component No. = EZ-8P1

–ZP or ZT = Short Tail



LEAD STYLE	W HEAD	Z OAL
–ZP	(0,76) .030	(5,08) .200
–ZT	(0,51) .020	(4,24) .167

ZP Insertion Depth =.125" to .145"
ZP Component No. = EZ-1M1
ZT Insertion Depth = .080" to .105"
ZT Component No. = EZ-1M2

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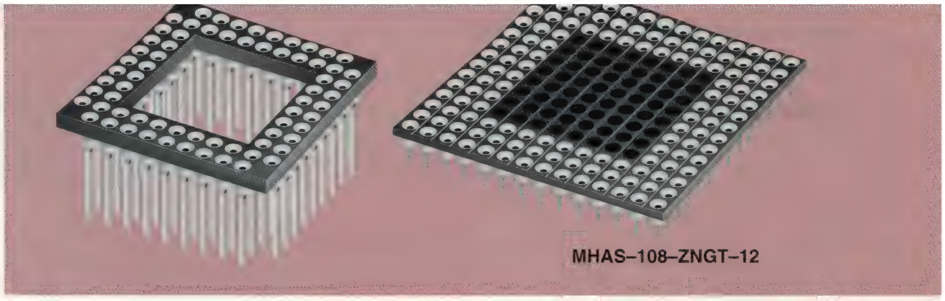
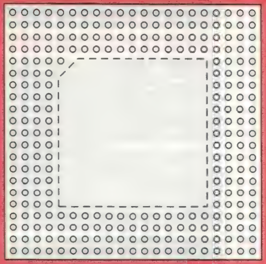


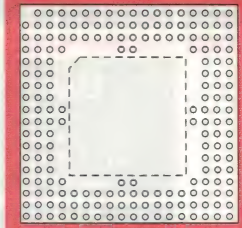
MORE STANDARD PIN-OUTS AVAILABLE. CALL SAMTEC.

–21 =273 Pins



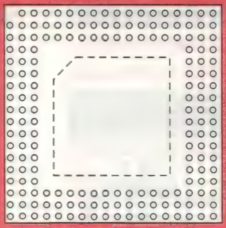
MSAS only.

–18 =191 Pins



MSAS only.

–18 =179 Pins

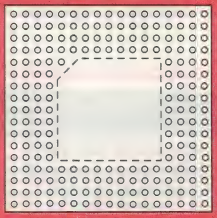


MSAS only.

–17 =240 Pins

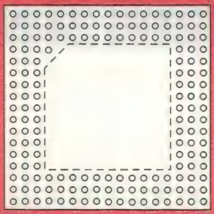
MVAS & MSAS not available.

–17 =209 Pins

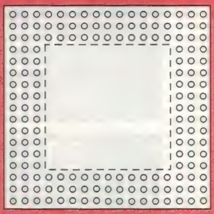


MSAS not available.

–17 =169 Pins



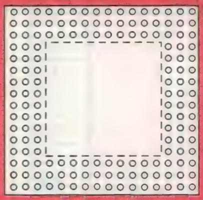
–17 =168 Pins



–16 =172 Pins

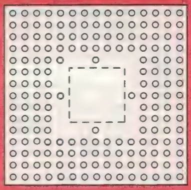
MVAS & MSAS not available.

–16 =156 Pins



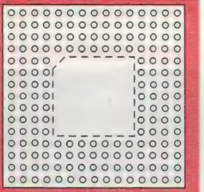
MSAS only.

–15 =181 Pins



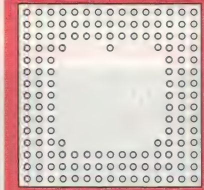
MVAS not available.

–15 =176 Pins



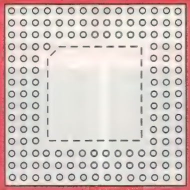
MSAS not available.

–15B =149 Pins



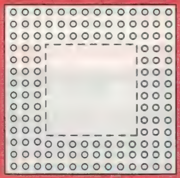
MVAS & MSAS not available

–15 =145 Pins

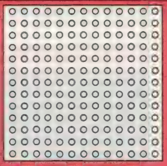


MVAS not available.

–14 =132 Pins

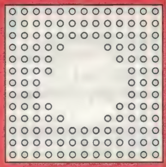


–13 =169 Pins



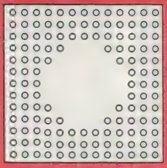
MVAS & MSAS not available.

–13A =133 Pins



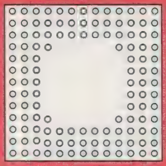
MVAS & MSAS not available.

–13B =132 Pins



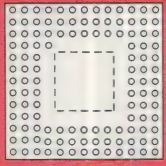
MVAS & MSAS not available

–13A =124 Pins



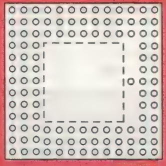
MVAS & MSAS not available

–13A =121 Pins

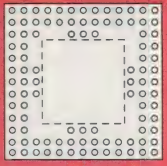


MSAS not available.

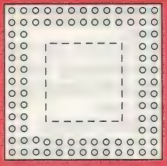
–13 =114 Pins



–13 =101 Pins

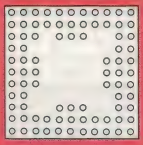


–13 =088 Pins



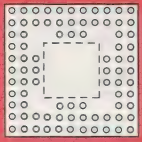
MSAS not available.

–11 =085 Pins



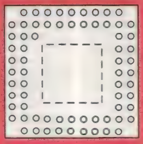
MVAS & MSAS not available.

–11C =084 Pins



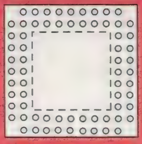
MSAS not available.

–11 =069 Pins

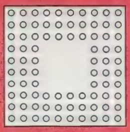


MSAS not available.

–11 =068 Pins

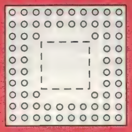


–10 =084 Pins



MVAS & MSAS not available.

–10 =068 Pins



MSAS not available.

samtec

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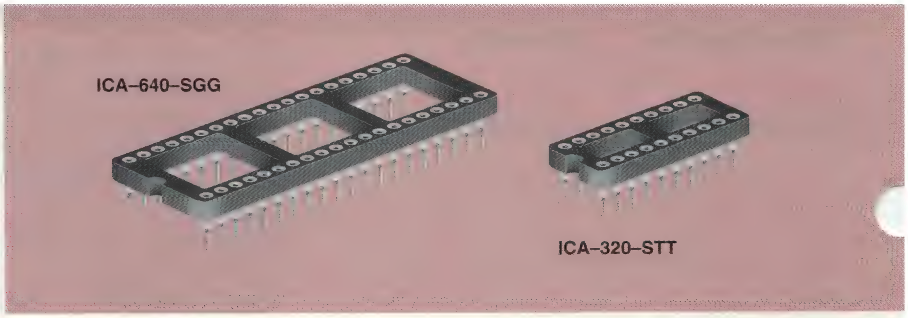


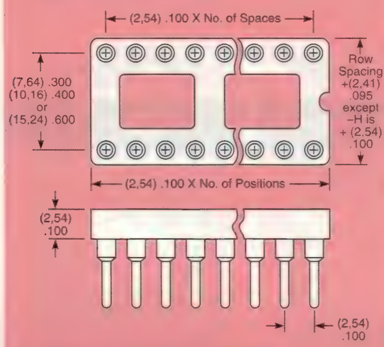
DIP SOCKETS ICA SERIES

Mates with: AP, APS, APO, APA, APE

ICA	–	ROW SPACING & NO. OF CONTACTS	–	STYLE OPTION	PLATING OPTION	–	OPTION (Leave Blank for Standard Version)

Specify from chart below

- Side & end stackable
- Great for auto insertion
- Open body design



* –322 has no cross bar on one end.

	Row Space	No. of Contacts
–308	.300 (7,62)	08
–314		14
–316		16
–318		18
–320		20
–322*		22
–324		24
–328		28
–422	.400 (10,16)	22
–624	.600 (15,24)	24
–628		28
–632		32
–640		40
–648		48

PLATING OPTION

GG = 30µ" (0,76mm) Gold contact 10µ" (0,25mm) Gold Shell

GT = 30µ" (0,76mm) Gold contact 200µ" (5,08mm) Tin Shell

TT = 200µ" (5,08mm) Tin contact and shell (–S,–ZS,–W, –ZW only)

ST = 10µ" (0,25mm) Gold contact 200µ" (5,08mm) Tin shell (Styles –S & –ZS only)

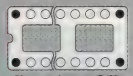
OPTION

–2 = .360 (9,14) Tail
–3 = .260 (6,60) Tail

Wire-Wrap Option Requires Style –W or –ZW. Specify desired suffix for shorter Wire-Wrap tail.

–L = Locking Socket

Requires Style –S or –ZS



Requires GT Plating Option

Specifications: ICA

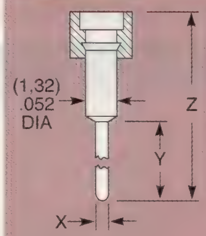
Insulator Material: Black Glass Filled Polyester except -328 is LCP
Flammability Rating: UL 94V-O
Insulation Resistance: 5000 MΩ min
Temperature Range: -65°C to +105°C with Tin; -65°C to + 125°C with Gold.
Withstanding Voltage: 1000 VRMS
Contact: BeCu
Shell: Brass except style K Phosphor Bronze
Plating: Au or Sn over 50µ" Ni
Current Rating: 1A
Contact Resistance: 10 mΩ max
Lead Size Range: .015" to .022" (0,38mm to 0,56mm) DIA and most IC leads
Insertion Force: Standard = 9 oz avg, 16 oz max; Low Insertion Force = 2.5 oz avg, 5.5 oz max
Withdrawal Force: Standard = 2.5 oz avg, 1.5 oz min; Low Inser-tion Force = 2.0 oz avg, 0.35 oz min

Note: Some sizes, styles and options are non-standard, non-returnable.

STYLE OPTION

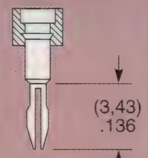
–S, –ZS, –ZA, –J, or –K

= Printed Circuit
-ZS & -ZA = Low Insertion Force



LEAD STYLE	X DIA	Y TAIL	Z
–S or –ZS	(0,51) .020	(3,18) .125	(7,62) .300
–ZA	(0,51) .020	(4,57) .180	(8,89) .350
–J	(0,64) .025	(10,41) .410	(15,24) .600
–K	(0,89) .035	(12,95) .510	(17,86) .703

Locking lead available with –S and –ZS. See OPTION.

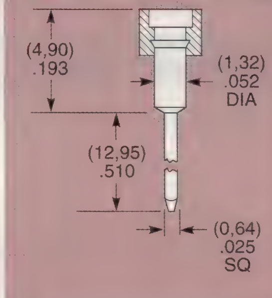


–L Option

Insertion Depth = .095" (2.41) to .145" (3.68):
Style S Component Part No. = SC-1P1
Style ZS Component Part No. = EZ-1P1
Style ZA Component Part No. = EZ-6P1
Option L Component Part No. = SC-1L1 or EZ-1L1
Insertion Depth = .095" (2,41) to .138" (3,51)
Style J Component Part No. = SC-1P3
Insertion Depth = .125" (3,18) to .157" (3.99)
Style K Component Part No. = SC-2P1

–W, –ZW

= Wire-Wrap
ZW = Low Insertion Force

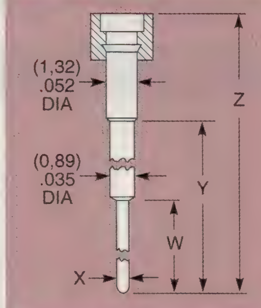


Shorter wire-wrap tail lengths available. See OPTION.

Insertion Depth = .125' (3.18) to .157" (3.99)
Style W Component Part No. = SC-1W1(1)
Style ZW Component Part No. = EZ-1W1(1)
Style W-2 Component Part No. = SC-1W1(2)
Style ZW-2 Component Part No. = EZ-1W1(2)
Style W-3 Component Part No. = SC-1W1(3)
Style ZW-3 Component Part No. = EZ-1W1(3)

–ZE or –ZH

= Elevated
Low Insertion Force



LEAD STYLE	X DIA	W TAIL	Y	Z
–ZE	(0,51) .020	(4,32) .170	(8,86) .349	(13,77) .542
–ZH	(0,46) .018	(3,81) .150	(12,95) .510	(17,86) .703

Insertion Depth = .125" (3,18) to .170" (4,32)
Style ZE Component Part No. = EZ-2P3
Insertion Depth = .125" (3.18) to .145" (3,68)
Style ZH Component Part No. = EZ-2P2

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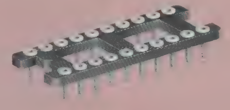
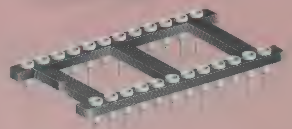
POPULAR CONNECTORS Ship Next DAY





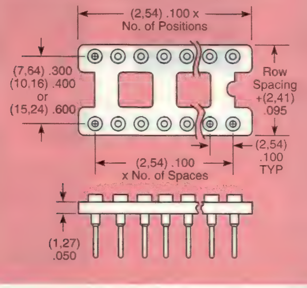
LOW PROFILE DIP SOCKETS ICO SERIES

Mates with: APO, APA

ICO – ROW SPACING & NO. OF CONTACTS – STYLE OPTION – PLATING OPTION – OPTION (Leave Blank for Standard Version)

Specify from chart below

- Low profile down to .083" (2,11mm) above printed circuit board
- Side & end stackable
- Open body design
- Surface mountable lead sockets



	Row Space	Contacts
–308	.300 (7,62)	08
–314		14
–316		16
–318		18
–320		20
–322		22
–324		24
–422	.400 (10,16)	22
–624	.600 (15,24)	24
–628		28
–632		32
–640		40

PLATING OPTION

GG = 30µ" (0,76µm) Gold Contact 10µ" (0,25µm) Gold Shell

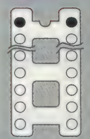
GT = 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Shell

TT = 200µ" (5,08µm) Tin Contact and Shell (–C, –S, –ZS, –A, –L, –M, –N, only)

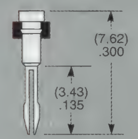
ST = 10µ" (0,25µm) Gold Contact 200µ" (5,08µm) Tin Shell (Styles –S & –ZS only)

OPTION

–L = Locking Socket



Requires Style –S, –ZS, –P, or –ZP and .035" ± .003" (0,89mm ± 0,08) board hole.



Requires GT Plating Option

Specifications:

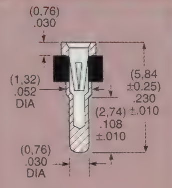
ICO

Insulator Material: Black Glass Filled Polyester
Flammability Rating: UL 94V-O
Insulation Resistance: 5000 MΩ min
Temperature Range: -65°C to +125°C with Gold; -65°C to +105°C with Tin
Withstanding Voltage: 1000 VRMS @ 60 Hz
Contact: BeCu
Shell: Brass except style K Phosphor Bronze
Plating: Au or Sn over 50µ" (1,27µm) Ni
Current Rating: 1A
Contact Resistance: 10 mΩ max
Lead Size Range: .015" to .022" (0,38mm to 0,56mm) DIA and most IC leads except C, L, M, and N
Insertion Force: Standard = 9 oz avg, 16 oz max; Low Insertion Force = 2.5 oz avg, 5.5 oz max
Withdrawal Force: Standard = 2.5 oz avg, 1.5 oz min; Low Insertion Force = 2.0 oz avg, 0.35 oz min except Styles ZM and ZN = 2.0 avg, 0.5 oz min

Note: Some sizes, styles and options are non-standard, non-returnable.

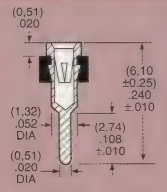
STYLE OPTION

–L = Low Profile For LIF Specify –ZL



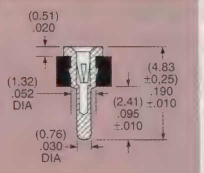
Lead DIA Accepted = .015" to .020" (0,38mm to 0,51mm)

–M = Low Profile For LIF Specify –ZM



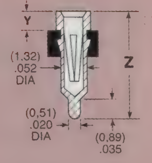
Lead DIA Accepted = .016" to .021" (0,41mm to 0,53mm)

–N = Micro Socket For LIF Specify –ZN



Lead DIA Accepted = .016" to .020" (0,41mm to 0,51mm)

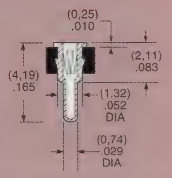
–ZP or –ZT = Short Tail Low Insertion Force



LEAD STYLE	Z	Y
–ZP	(5,20) .205	(0,76) .030
–ZT	(4,24) .167	(0,51) .020

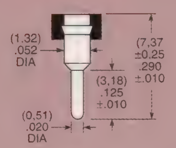
Locking lead (–L) available. See OPTION.

–C = Micro Socket For LIF Specify –ZC

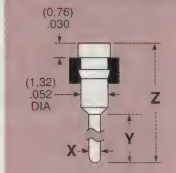


Lead DIA Accepted = .016" to .020" (0,41mm to 0,51mm)

–F = Flush Top



–S, –ZS, –ZA, –J, or –K = Printed Circuit –ZS & –ZA= Low Insertion Force



LEAD STYLE	X DIA	Y TAIL	Z
–S or –ZS	(0,51) .020	(3,18) .125	(7,62) .300
–ZA	(0,51) .020	(4,57) .180	(8,89) .350
–J	(0,64) .025	(10,41) .410	(15,24) .600
–K	(0,89) .035	(12,95) .510	(17,86) .703

Locking lead (–L) available. See OPTION.

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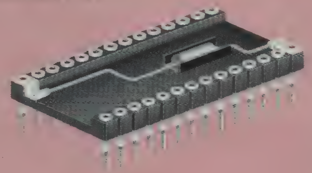
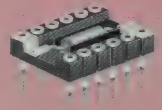
POPULAR CONNECTORS Ship in 3 DAYS

CIC–628–SST–01





CIC–312–SGT–02

CAPACITOR SOCKETS CIC SERIES

Mates with:
APO, APA

High Reliability Capacitor/IC Sockets

Samtec high-reliability Capacitor/IC sockets have an internally mounted decoupling capacitor to eliminate noise.

Precision machined socket shells have either standard or low insertion force contacts. A unique clip provides gas-tight connection of capacitor leads to the lead socket. See test data section of catalog. Complete report from independent lab available on request.

Specifications: CIC

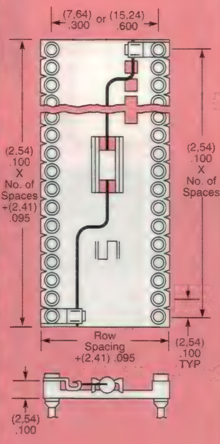
Insulator Material:
Black Glass Filled Polyester
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ min
Operating Temp Range:
-65°C to +125°C with Gold
-65°C to +105°C with Tin
Withstanding Voltage:
1000 VRMS
Contact: BeCu
Shell: Brass
Plating:
Au 50µ" (1,27µm) Ni
Current Rating:
1 A
Contact Resistance:
10 mΩ max
Socket Retention in Body:
5 lbs against barb
Insertion Force:
Standard = 9 oz (2,50N) avg, 16 oz (4,45N) max
Low Insertion Force = 2.5 oz (0,70N) avg, 5.5 oz (1,53N) max
Withdrawal Force:
Standard = 2.5 oz (0,70N) avg, 1.5 oz (0,42N) min
Low Insertion Force = 2.0 oz (0,56N) avg, 0.35 oz (0,19N) min

Note: Some sizes, styles and options are non-standard, non-returnable.

CIC – ROW SPACING & NO. OF CONTACTS – STYLE OPTION – PLATING OPTION – CAP SUFFIX – OTHER OPTION

ROW SPACING & NO. OF CONTACTS

–312	= .300 Row 12 Contacts
–314	= .300 Row 14 Contacts
–316	= .300 Row 16 Contacts
–318	= .300 Row 18 Contacts
–320	= .300 Row 20 Contacts
–322	= .300 Row 22 Contacts
–324	= .300 Row 24 Contacts
–624	= .600 Row 24 Contacts
–626	= .600 Row 26 Contacts
–628	= .600 Row 28 Contacts
–630	= .600 Row 30 Contacts
–632	= .600 Row 32 Contacts
–634	= .600 Row 34 Contacts
–636	= .600 Row 36 Contacts
–638	= .600 Row 38 Contacts
–640	= .600 Row 40 Contacts



Specify row spacing and number of contacts
First number is 10 times row spacing.
Second two numbers are number of contacts.

PLATING OPTION

GG = 30µ" (0,76µm) Gold Contact 10µ" (0,25µm) Gold Shell

GT = 30µ" (0,76µm) Gold Contact 200µ" (5,08µm) Tin Shell

TT = 200µ" (5,08µm) Tin Contact and Shell

ST = 10µ" (0,25µm) Gold Contact 200µ" (5,08µm) Tin Shell

CAP SUFFIX

–01 = .01µf

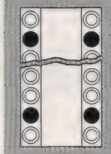
–02 = .1µf

–05 = .33µf

OTHER OPTION

–L = Locking Socket

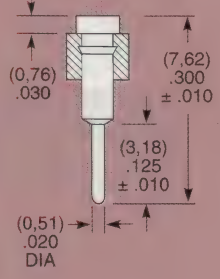
Requires .040"±.003" board hole.

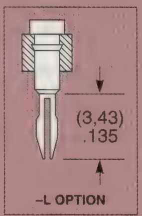


Requires GT Plating Option

STYLE OPTION

–S = Standard Solder Tail
For LIF specify –ZS





Lead DIA Accepted = .015" (0,38mm)to .022" (0,56mm)
Insertion Depth = .095" (2,41mm) to .145" (3,68mm):
Style S Component Part No. = SC-1P1
Style ZS Component Part No. = EZ-1P1
Option L Component Part No. = SC-1L1 or EZ-1L1

SAMTEC USA • Tel: 1-800-SAMTEC-9 or 812-944-6733 • Fax: 812-948-5047 **SAMTEC UK** • Tel: 01236 739292 • Fax: 01236 727113
SAMTEC GERMANY • Tel: +49 (0)8141 / 37 85-0 • Fax: +49 (0)8141 / 37 85-99 **SAMTEC FRANCE** • Tel: 33 1 60 24 75 50 • Fax: 33 1 60 24 75 59 **SAMTEC ITALY** • Tel: 39-2-38093535 • Fax: 39-2-38093453
SAMTEC ASIA PACIFIC • Tel: 65-745-5955 • Fax: 65-841-1502 **SAMTEC JAPAN** • Tel: 81-424-42-8318 • Fax: 81-424-42-8319

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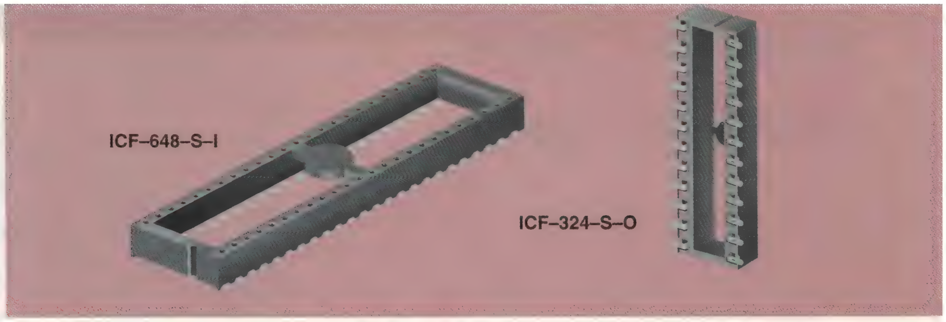
POPULAR CONNECTORS Ship Next DAY



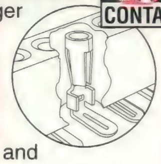
SURFACE MOUNT DIP SOCKETS ICF SERIES

Surface mount sockets for IC packages!

These unique sockets have slotted tails to provide added adhesion to the solder paste and greater solder joint strength. The high temperature LCP body is ideal for vapor phase or infrared soldering.

TIGER EYE CONTACT

Precision stamped three-finger micro contacts provide exceptional reliability and performance.



Specifications: ICF

Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 1A
Operating Temp Range: -65°C to +125°C
Max Processing Temp: 230°C for 60 seconds
Plating: Au or Sn over 50µ" (1,27µm) Ni
Contact Resistance: 10 mΩ Max
Insertion Depth: .100" (2,54mm) to .150" (3,81mm)
Insertion Force: 5oz (1,39N) average
Withdrawal Force: 4oz (1,11N) average
SMT Lead Coplanarity: .006" (0,15mm) max

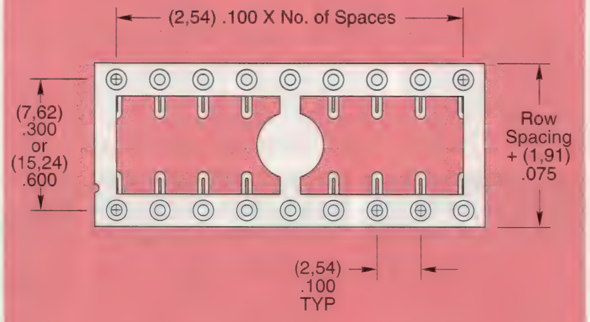
Note: Some sizes, styles and options are non-standard, non-returnable.

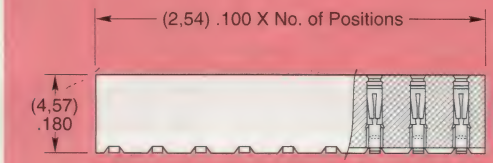
TYPE SOCKET	ROW SPACING & NO. OF CONTACTS	PLATING OPTION	TAIL OPTION	OTHER OPTION
ICF =Surface Mount IC Socket	Specify from chart below	**–S** =30µ" (0,76µm) Au on contact 150µ" (3,81µm) Tin on tail **–T** =150µ" (3,81µm) Tin	**–I** =Tails In **–O** =Tails Out	**–TR** =Tape & Reel Packaging

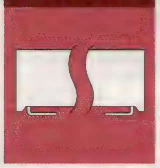
TAPE & REEL AVAILABILITY
No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.
Call Samtec for specifications and ordering information.

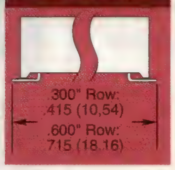
Specify from chart below

"–XXX"	Row Space	No. of Contacts
–308	.300 (7,62)	08
–314		14
–316		16
–318		18
–320		20
–322		22
–324		24
–328		28
–624	.600 (15,24)	24
–628		28
–632		32
–640		40
–648		48

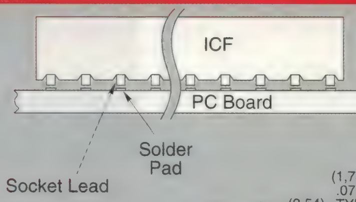


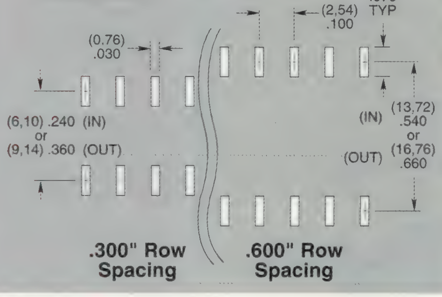




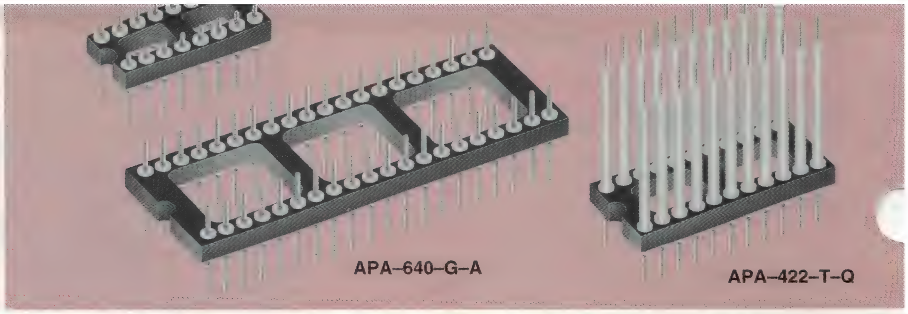


APPLICATIONS





POPULAR CONNECTORS Ship Next DAY



ADAPTOR PLUGS APA SERIES

Mates with:
ICO, ICA, CIC

Features:

- Side & end stackable
- Great for auto insertion
- Open body design

Specifications:

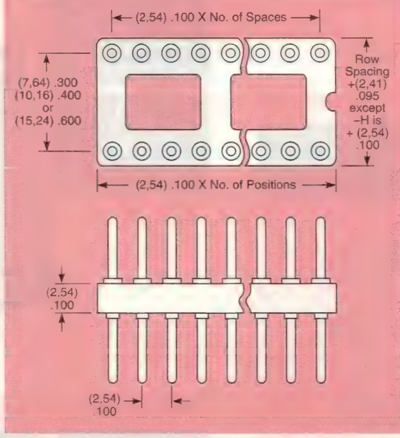
APA

Insulator Material:
Black Glass Filled Polyester except -328 is LCP
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ min
Operating Temp Range:
-65°C to +105°C with Tin;
-65°C to + 125°C with Gold.
Withstanding Voltage:
1000 VRMS
Terminal Material:
Brass except styles –M, –N, –P and –Q are Phosphor Bronze or Brass
Plating:
Au over 50μ" (1,27mm) Ni or Sn over 100μ" (2,54mm) Cu or 50μ" (1,27mm) Ni
Current Rating:
1 A
Terminal Retention in Body:
5 lbs (22,25N) against barb

Note:
Some sizes, styles and options are non-standard, non-returnable.

APA – ROW SPACING & NUMBER OF PINS – PLATING OPTION – LEAD STYLE

Specify from chart below



	Row Space	No. of Pins
–308	.300 (7,62)	08
–314		14
–316		16
–318		18
–320		20
–322*		22
–324		24
–328		28
–422	.400 (10,16)	22
–624	.600 (15,24)	24
–628		28
–632		32
–640		40
–648		48

* –322 has no cross bar on one end.

PLATING OPTION

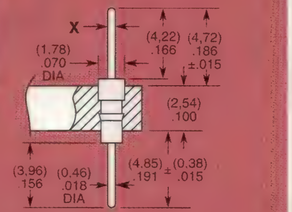
–G
= 20μ" (0,58μm) Gold

–T
= 200μ" (5,08μm) Tin

LEAD STYLE

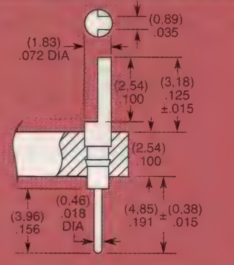
–A or –A1
= Round Pin

STYLE	X DIA
–A	(.64) .025
–A1	(.46) .018



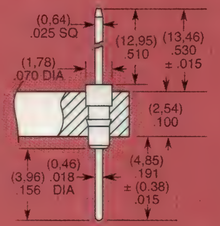
Style A Component No. = T-1R0-
Style A1 Component No. = T-1R5-

–C
= Slotted Head



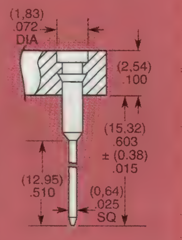
Component No. = T-1R2-

–D
= Wire-Wrap



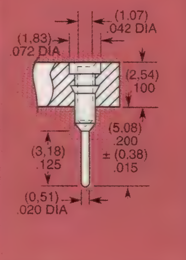
Component No. = T-1S4-1-1

–F
= Flat-head W.W.



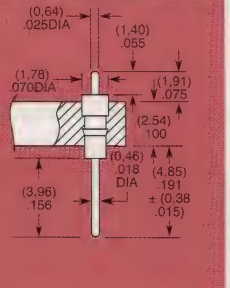
Component No. = T-1S2-

–J
= Solder Shell



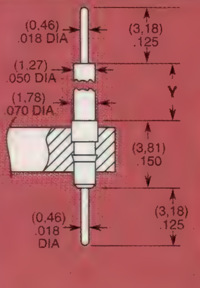
Component No. = S-1P1-

–K
= Test Point



Component No. = T-1R15-

–M, –N, –P or –Q
= Interconnect Post



Not available with -328 body.

STYLE	Y
–M	(1,52) .060
–N	(4,69) .185
–P	(11,05) .435
–Q	(17,40) .685

Component No. = T-1R14-

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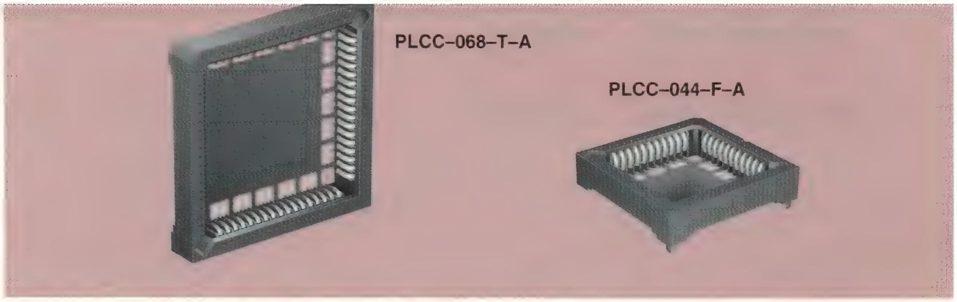


CHIP CARRIER SOCKETS PLCC SERIES

Features:

- Same footprint as most common plastic leaded chip carriers.
- Unique PLCC Series contact design has a "slotted tail" for added adhesion of solder paste, and superior solder joint strength.
- PLCC Series contact provides exceptionally high retention by applying spring pressure downward on the chip carrier.
- "See through" design for solder fillet inspection.

For PLCC extractor tool order **Part No. PLC-EXR**

Specifications PLCC HI-TEMP

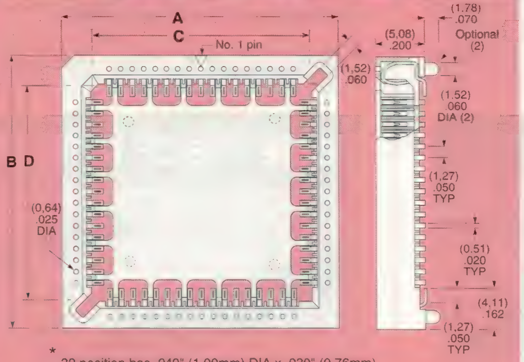
Insulator Material: Black Liquid Crystal Polymer
Contact Material: BeCu
Current Rating: 1A
Operating Temp Range: -65°C to +105°C
Max Processing Temp: 230°C for 60 seconds
Plating: Sn or Au over 50µ" (1,27µm) Ni
Contact Resistance: 10mΩ max
Lead Coplanarity: Less than 52 leads= .006" (0,15mm) max; 52 leads and more= .008" (0,20 mm) max

Note: Some sizes, styles and options are non-standard, non-returnable.

PLCC – **NUMBER OF CONTACTS** – **PLATING OPTION** – **ALIGNMENT PIN OPTION** – **PACKAGE OPTION**

NUMBER OF CONTACTS

–020, –028, –032, –044, –052, –068, –084



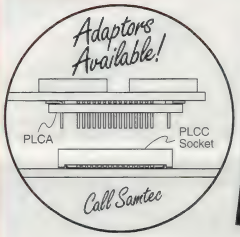
* 32 position has .040" (1,00mm) DIA x .030" (0.76mm) high standoffs in corners.

NO.OF PINS	A	B	C	D
–020	.600 (15,24)	.600 (15,24)	.370 (9,40)	.370 (9,40)
–028	.700 (17,78)	.700 (17,78)	.470 (11,94)	.470 (11,94)
–032		.800 (20.32)		.570 (14,48)
–044	.900 (22,86)	.900 (22,86)	.670 (17,02)	.670 (17,02)
–052	1.000 (25,40)	1.000 (25,40)	.770 (19,56)	.770 (19,56)
–068	1.200 (30,48)	1.200 (30,48)	.970 (24.64)	.970 (24.64)
–084	1.400 (35,56)	1.400 (35,56)	1.170 (29,72)	1.170 (29,72)

PLATING OPTION

–T =150µ" (3,81µm) Tin

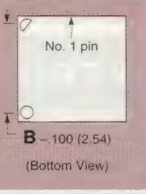
–F =Gold flash on contact, 150µ" (3,81µm) Tin tail



ALIGNMENT PIN OPTION

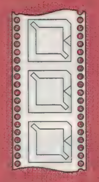
–N =No Alignment Pins

–A =Alignment Pins



PACKAGE OPTION

–TR =Tape and Reel



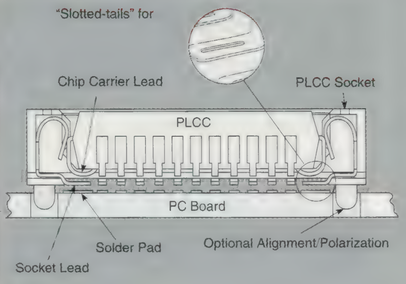
Leave package option blank for packaging in a tube.

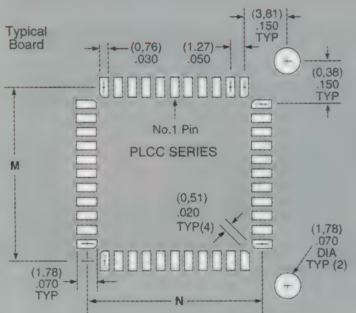
TAPE & REEL AVAILABILITY

No tooling charges.
125 piece minimum order.
Order any quantity above minimum.
In-house design, manufacture.
Quick turn-around.

Call Samtec for specifications and ordering information.

APPLICATIONS





NO. OF PINS	M	N
–020	(8,26).325	(8,26).325
–028	(10.79).425	(10.80).425
–032	(13.34).525	(10,80).425
–044	(15,88).625	(15,88).625
–052	(18.42).725	(18.42).725
–068	(23,50).925	(23,50).925
–084	(28,58)1.125	(28,58)1.125

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NEW PRODUCTS

ULTRA FINE PITCH

HMF SERIES
(0,50mm) .0197" Socket p41

CLE SERIES
(0,80mm) .0315" Socket p43

HMT SERIES
(0,50mm) .0197" Header p40

FTE SERIES
(0,80mm) .0315" Header p42

ULTRA LOW PROFILE

MLE SERIES
(1,00mm) .0394" Pitch p49

TLE SERIES
(2,00mm) .0787" Pitch p106

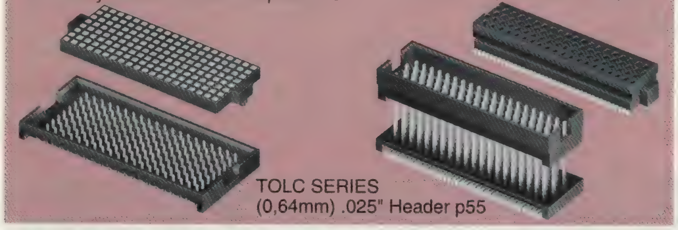
CLE SERIES
(0,80mm) .0315" Pitch p43

FLE SERIES
(0,50mm) .0197" Pitch p75

ULTRA HIGH DENSITY

CSB & MSB SERIES
Area Array Socket & Terminal p52 & 53

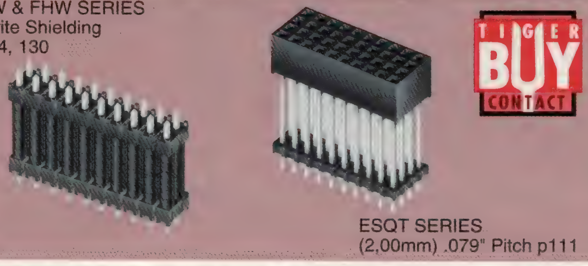
SOLC SERIES
(0,64mm) .025" Socket p54



TOLC SERIES
(0,64mm) .025" Header p55

SKYSCRAPER & FLEXIBLE STACKER

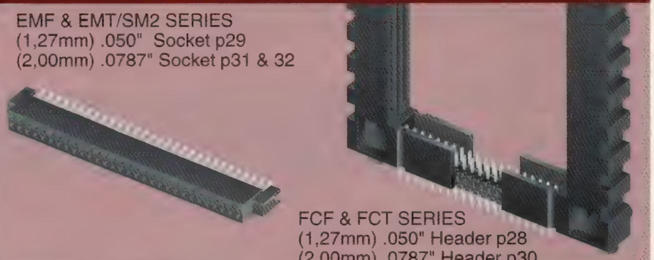
FTW & FHW SERIES
Ferrite Shielding
p104, 130



ESQT SERIES
(2,00mm) .079" Pitch p111

CARD-TO-BOARD

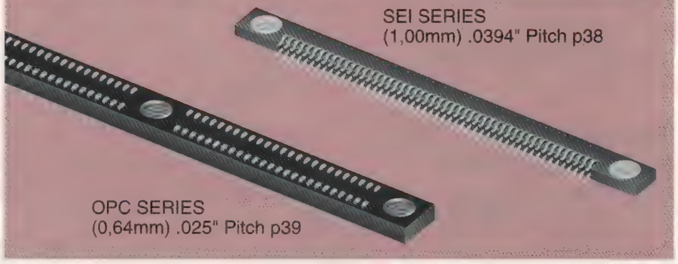
EMF & EMT/SM2 SERIES
(1,27mm) .050" Socket p29
(2,00mm) .0787" Socket p31 & 32



FCF & FCT SERIES
(1,27mm) .050" Header p28
(2,00mm) .0787" Header p30

ONE-PIECE INTERFACES

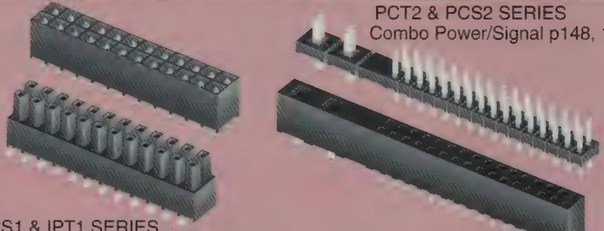
SEI SERIES
(1,00mm) .0394" Pitch p38



OPC SERIES
(0,64mm) .025" Pitch p39

POWER-TO-BOARD

PCT2 & PCS2 SERIES
Combo Power/Signal p148, 149



IPS1 & IPT1 SERIES
Isolated Power p152, 153

CABLE & RIGHT ANGLE

Direct Interface
(1,00mm) .0394" Pitch p163

HPT SERIES
(1,27mm) .050"
Hot Pluggable Header p67

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Due to technical progress, all designs, specifications and components are subject to change without notice.

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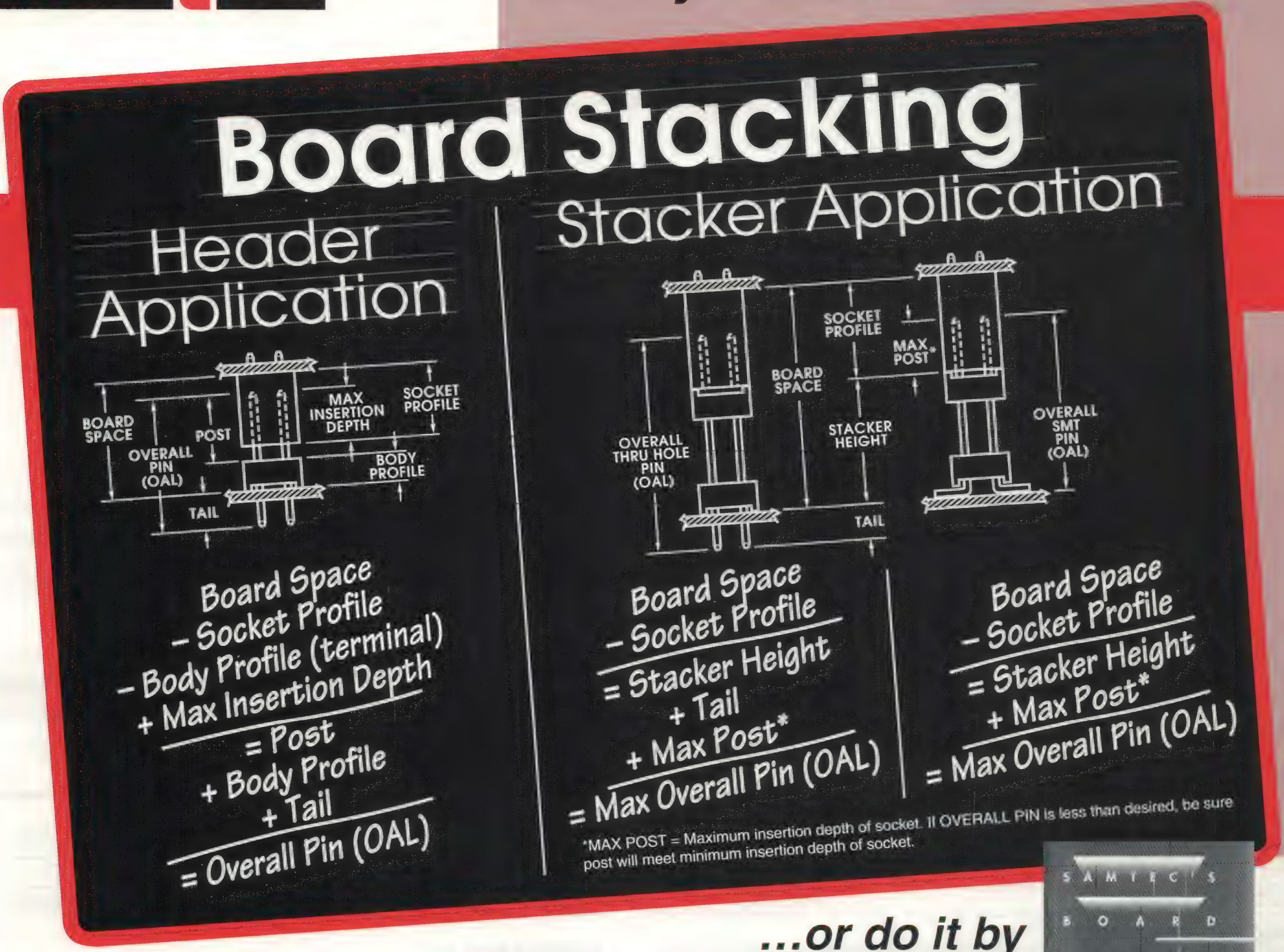
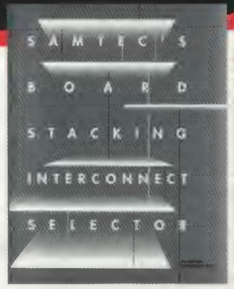
Do it yourself…



…or do it by the book!

Request Samtec's Board Stacking Interconnect Selector.



PART NUMBER CONVERSION

When Stacker Height, Post Height or Tail Length is specified in the part number use formula to convert from metric:

$$\text{Part Number} = \frac{\text{Length or Height in mm}}{0.0254}$$

Round to nearest whole number. See examples below.

Height (mm)	Height (inch)	Part Number
0,00	.000	-000
0,25	.010	-010
0,50	.020	-020
0,75	.030	-030
1,00	.039	-039
1,50	.059	-050
2,00	.079	-079
3,00	.118	-118
4,00	.157	-157
5,00	.197	-197
6,00	.236	-236
7,00	.276	-276
8,00	.315	-315
9,00	.354	-354
10,00	.394	-394
11,00	.433	-433
12,00	.472	-472
13,00	.512	-512
14,00	.551	-551
15,00	.591	-591

Height (mm)	Height (inch)	Part Number
16,00	.630	-630
17,00	.669	-669
18,00	.709	-709
19,00	.748	-748
20,00	.787	-787
21,00	.827	-827
22,00	.866	-866
23,00	.906	-906
24,00	.945	-945
25,00	.984	-984
26,00	1.024	-1024
27,00	1.063	-1063
28,00	1.102	-1102
29,00	1.142	-1142
30,00	1.181	-1181
31,00	1.220	-1220
32,00	1.260	-1260
33,00	1.299	-1299
34,00	1.339	-1339
35,00	1.378	-1378

NOTE: If product is only available with part numbers ending in "0" or "5" round to closest acceptable number, e.g. -395 = 10,03 mm.

PCB HOLE SIZES

Use chart to determine PCB hole sizes for common Samtec lead sizes.

LEAD SIZE	HOLE SIZE
(0,46) .018 DIA	(0,61) .024 DIA
(0,51) .020 DIA	(0,66) .026 DIA
(0,64) .025 DIA	(0,79) .031 DIA
(0,76) .030 DIA	(0,91) .036 DIA
(0,89) .035 DIA	(1,04) .041 DIA
(1,14) .045 DIA	(1,30) .051 DIA
(1,32) .052 DIA	(1,47) .058 DIA
(0,41) .016 SQ	(0,71) .028 DIA
(0,46) .018 SQ	(0,76) .030 DIA
(0,51) .020 SQ	(0,81) .032 DIA
(0,64) .025 SQ	(1,02) .040 DIA
(1,14) .045 SQ	(1,75) .069 DIA
(0,13) .005 x (0,41) .016	(0,56) .022 DIA
(0,20) .008 x (0,71) .028	(0,89) .035 DIA
(0,25) .010 x (0,36) .014	(0,56) .022 DIA
(0,25) .010 x (0,51) .020	(0,71) .028 DIA
(0,41) .016 x (0,51) .020	(0,79) .031 DIA
(0,41) .016 x (0,61) .024	(0,89) .035 DIA
(0,41) .016 x (0,79) .031	(1,04) .041 DIA

SPECIFICATIONS & TESTING

Specifications and Standard Test Procedures

Samtec products are subject to the following general specifications and standard test procedures.

QUALITY ASSURANCE

Quality program requirements	ISO 9000
UL File Number	E111594(N)
CSA File Number	LR 90871
Sampling procedures	MIL-STD-105
Quality assurance terms and definitions	MIL-STD-109
Calibration system requirements	MIL-STD-45662
Inspection system requirements	MIL-I-45208
Inspection equipment	MIL-I-45607B

INSULATOR

Specifications	
Molding plastics. Thermoplastic polyesters	MIL-M-24519
UL Flammability	UL 94 V0
UL Temperature index	UL 746B
Applied tests	
Dielectric Breakdown Voltage	ASTM D 149
AC Loss Characteristics	ASTM D 150
Impact Resistance of Plastics	ASTM D 256
DC Resistance	ASTM D 257
High-Voltage, Low-Current Arc Resistance	ASTM D 495
Water Absorption of Plastics	ASTM D 570
Test for Tensile Properties of Plastics	ASTM D 638
Deflection Temperature of Plastics	ASTM D 648
Compressive Properties of Plastics	ASTM D 695
Coefficient of Linear Thermal Expansion	ASTM D 696
Shear Strength of Plastics	ASTM D 732
Rockwell Hardness of Plastics	ASTM D 785
Flexural Properties of Plastics	ASTM D 790
Specific Gravity and Density of Plastics	ASTM D 792

CONTACT & TERMINAL

Specifications	
Brass	ASTM B16-85
Phosphor Bronze	ASTM B 139
Beryllium Copper	ASTM B 194
General specification for contacts	MIL-C-39029B
General specification for sockets	MIL-S-83505

PLATING

Specifications	
Gold	MIL-G-45204 Type 1Grade C
Tin	MIL-T-10727 Type 1
Under plating specifications	
Nickel	QQ-N-290
Copper	MIL-C-14550
Palladium Nickel	MIL-P-45209 Class 1.2
Applied tests	
Measuring metal and oxide coating thickness	ASTM-B487-79
Coating thickness (Beta Backscatter principle)	ASTM-B567
Coating thickness (X-ray Fluorescence)	ASTM-A-754-79

ASSEMBLY

Testing specifications	
Test methods for electrical connectors	MIL-STD-1344
Test methods for electronic/electrical components	MIL-STD-202
Connections, electrical, solderless, wrapped	MIL-STD-1130B
Environmental Test Methods	MIL-STD-810
Sockets (lead, electronic components), general	MIL-S-83505
Sockets, plug-in electronic components, general	MIL-S-83734
Packaging specifications	
Connectors, preparation for delivery	MIL-C-55330
Identification marking of US military property	MIL-STD-130

SPECIFICATIONS

Insulation Resistance	5000MΩ min
Dielectric Withstanding Voltage	1000 VRMS @ 60 Hz
Flammability Rating	UL 94V-0

Note:
Products with specifications other than those listed above are noted on the individual product pages.

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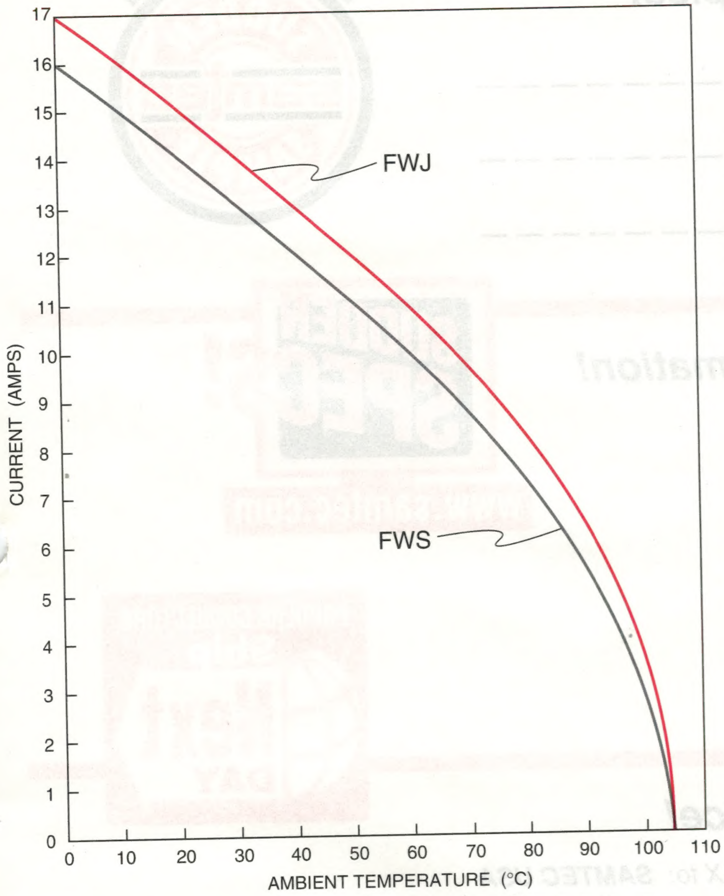
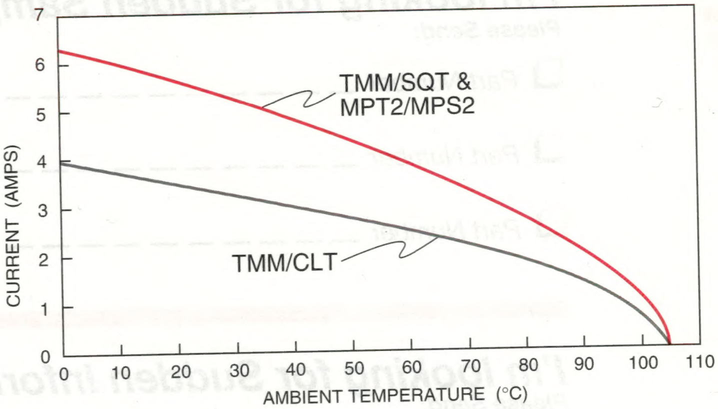
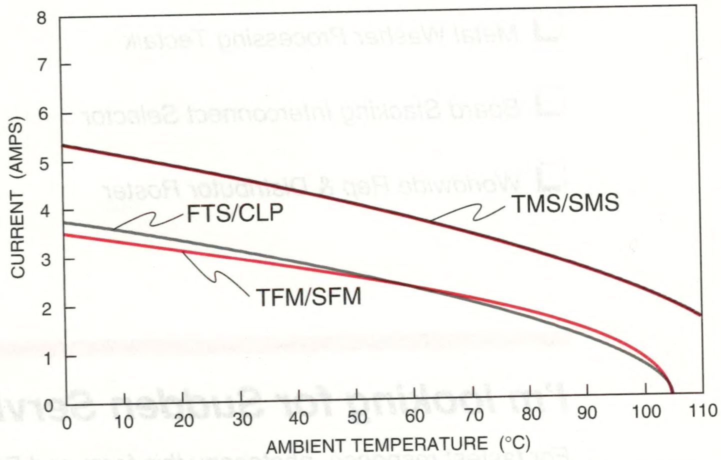
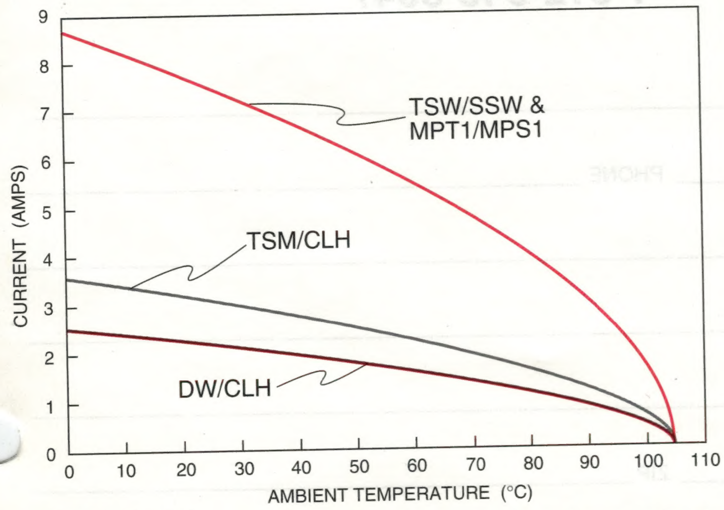
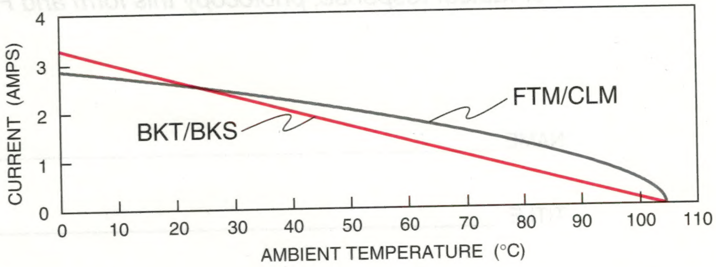
CURRENT CAPACITIES

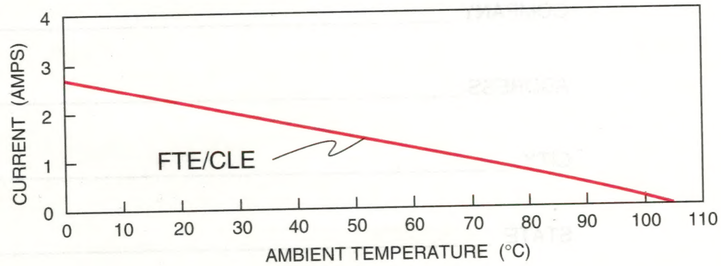












For general reference only. Call Samtec for Test Reports with complete Conditions and Results.

servicefax

Use this Samtec "Servicefax" for fast response to sample and literature requests.

I'm looking for Sudden Samples!

Please Send:

- ☐ *Part Number* ______________________
- ☐ *Part Number* ______________________
- ☐ *Part Number* ______________________

SUDDEN samtec SAMPLE

I'm looking for Sudden Information!

Please Send:

- ☐ *Metal Washer Processing Tectalk*
- ☐ *Board Stacking Interconnect Selector*
- ☐ *Worldwide Rep & Distributor Roster*

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GENERAL POLICY

The information contained in this catalog is accurate to the best of our knowledge. Due to technical progress, it is subject to change without notice. Application information is informational in nature and shall not be construed to warrant suitability of products for any particular purpose as performance may vary with the conditions encountered. Any cut strip or custom made items or options are considered "special", non-returnable items. Samtec products are warranted for 30 days and the warranty is limited strictly to replacement of products with defective workmanship.

Federal Supply Code: 55322

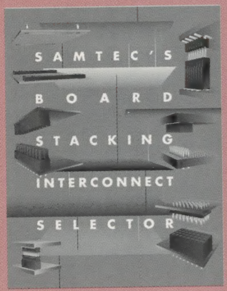
LITERATURE & INDEX

PROCESSING TECTALK

Samtec's Metal Washer Technology allows one-pass IR soldering of Surface Mount and Through-Hole connectors. This tectalk reviews applications and gives printed circuit board processing suggestions for each application.

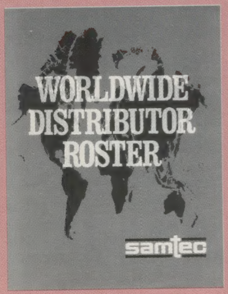
PATENT PENDING

BOARD STACKING SELECTOR



Samtec has the industry's most flexible selection of interconnects for board stacking. This designer's guide makes it easy to specify (2,54mm) .100", (2,00mm) .0787", (1,27mm) .050", (1,00mm) .0394" and (0,80mm) .0315" pitch board-to-board interconnects.

REP & DISTRIBUTOR ROSTER



Samtec is represented by technical sales organizations and stocking distributors all over the world. This publication contains a complete listing.

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** Product available but not shown in this catalog. Call Samtec for specifications.

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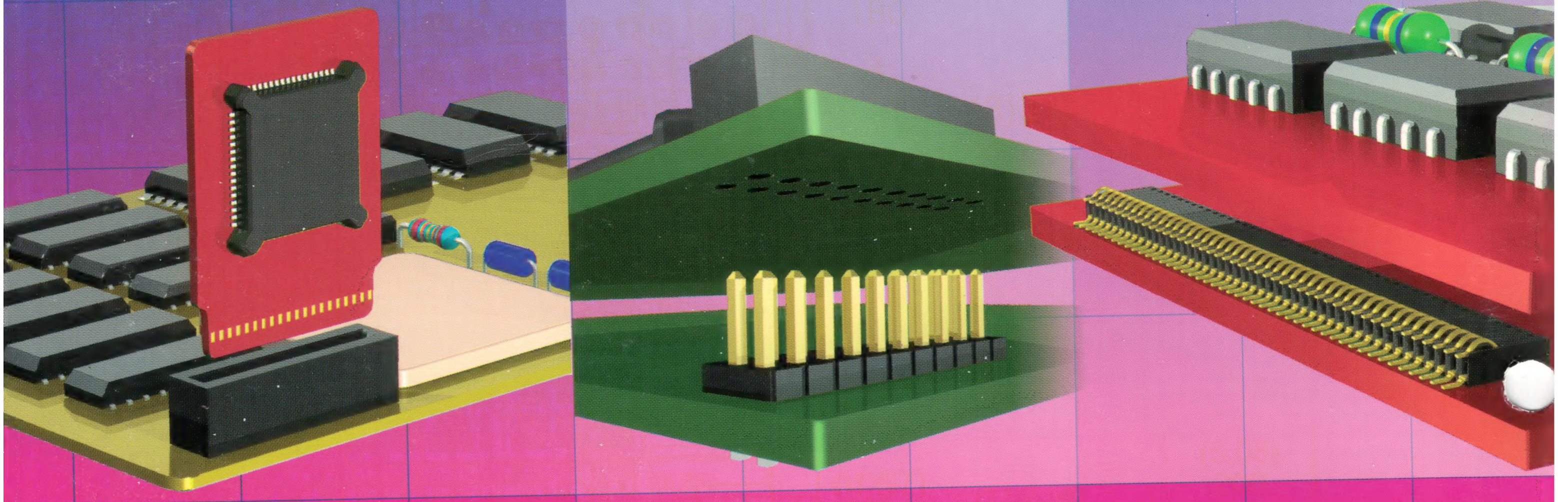
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